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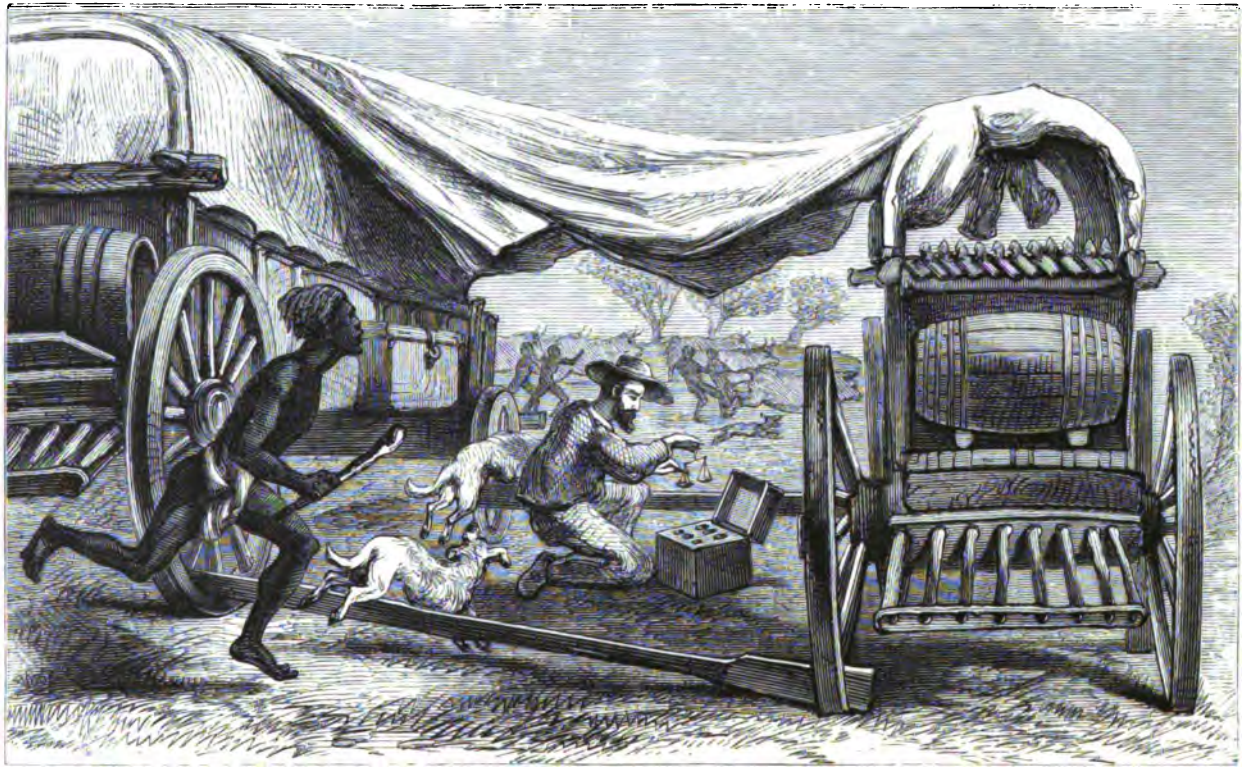
TRAVELS

IN THE

INTERIOR OF SOUTH AFRICA.

VOL. II.

LONDON: PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET
AND CHARING CROSS.



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Frontispiece, Vol. II.

TRAVELS

IN THE

INTERIOR OF SOUTH AFRICA,

COMPRISING

Fifteen Years' Hunting and Trading;

WITH JOURNEYS ACROSS THE CONTINENT FROM NATAL TO WALVISCH BAY, AND VISITS TO LAKE NGAMI AND THE VICTORIA FALLS.

BY

JAMES CHAPMAN, F.R.G.S.

ILLUSTRATED WITH MAPS AND NUMEROUS ENGRAVINGS.

IN TWO VOLUMES.

VOL. II.

LONDON:
BELL & DALDY, YORK STREET, COVENT GARDEN;
EDWARD STANFORD, 6, CHARING CROSS.

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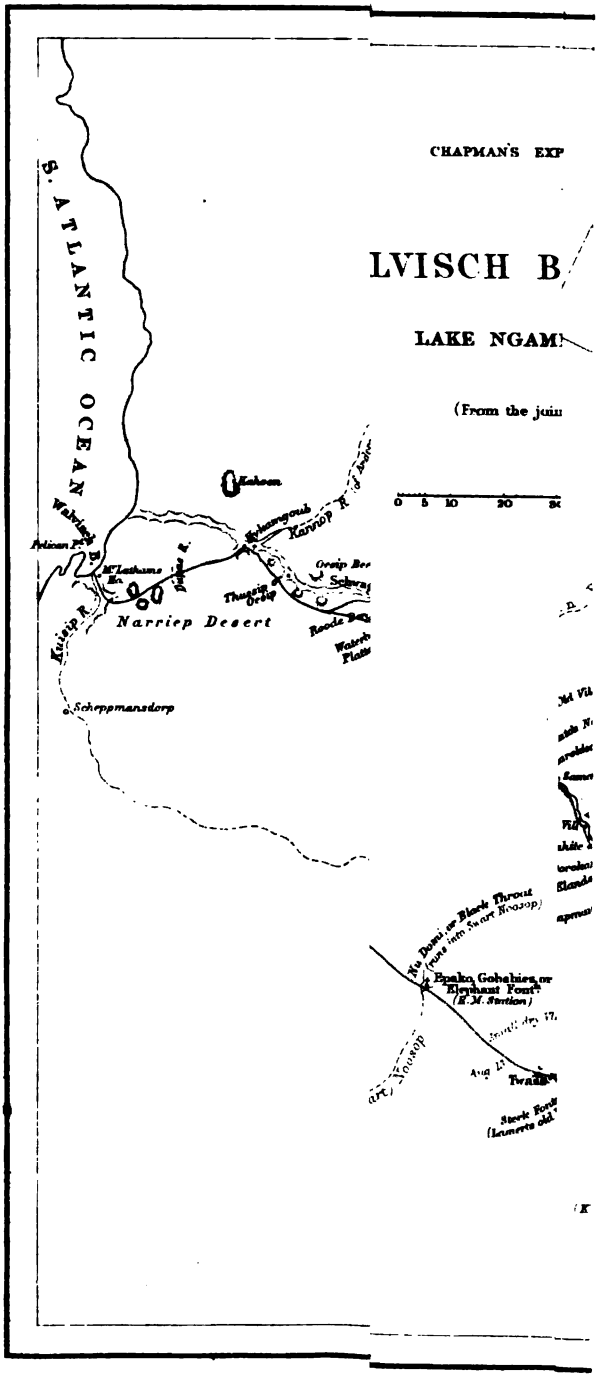
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,,	170	for "*Rhiz. Sinuous*" read "*Rhiz. Simus.*"
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,,	407	for "*Nectarina*" read "*Nectarinia.*"
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,,	416	for "*Tringa Squatavola*" read "*Tringa Squatarola.*"
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,,	465	for "*Sclerveroton integrefolius*" read "*Sclerocroton integrifolius.*"
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,,	,,	for "*Sclerorya*" read "*Sclerocarya.*"
,,	,,	for "*Zizyphus macronata*" read "*Sizyphus mucronatus.*"

CHAPMAN'S TRAVELS.

CHAPTER I.

Journey to Kopjies—Native Forms of Grief—Leave for the Lake—Its present Aspect—Native Stork—Violent Thunder-storm—Letters from my Brother—Return to Koobie—An Elephant-hunt—An unexpected Pleasure—Plan of future Proceedings—Mortality among Dogs—Storks—Edible Gourds—Journey Northwardly—Encounter with hostile Bushmen—Elephants at Sleepy Hollow—The Teougé Valley—A fruitless Chase—A Charge of Elephants—The Horned Snake—The Ovambos—Back to Union Valley—New Year's Vley.

Saturday, 23rd November, 1861.—We started for the Kopjies, which we reached next day, having had heavy rain during the journey. On the morrow I was out on foot from sunrise till sunset, and must have walked 30 miles, but got nothing in the shape of game, excepting one fennec and one guinea-fowl.

It is amusing to observe the figure some of our people cut in their ragged garments. We keep those about the wagons respectably clothed, but the herdsmen and their wives are also ambitious to figure in castaway rags. I bring my old clothes from town to wear out here, after which I gave them to the head-men, who valued them highly. From them they pass, and after a good deal of further wear and tear, to the

leaders; and when the latter consider them worn out, they hand them over to inferiors. Sometimes the women get hold of them, and out of the remains of a pair of trousers make an apron, their only garment, or a turban. To-day I noticed a pair of Baines's old drill trousers on a man: but a very small part consisted of the drill, the rest being made up by a patch-work of rags most indefatigably stitched together, and comprising, besides the drill, serge, flannel, gunny-bag, coffee-sacking, calico, moleskin, and canvas. Both Damaras and Hottentots look well in their native costume, but I was shocked at the sight of a native woman in her proper dress, and wearing a pair of my cast-off boots.

I asked Snyman, whom I had seen at Sekelètu's in 1853, why their chief attacked Lechulatèbe at that time. He says it was only to obtain cattle, and amongst themselves they never pretended that it was for anything else. They had plundered, as he boasted to me, all the tribes round there, and there was no place for them to go that was so near. They were seriously planning an attack on Sekomi, in the south, when Dr. Livingstone dissuaded them from so rash an enterprise, and that decided them on making this inroad on Lechulatèbe's territory. Lechulatèbe has now killed twenty of Sekelètu's men, who came to levy taxes upon people on the Tamalukan.

Thursday, 28*th*.—I sent John off early this morning to hunt elephants. He returned at night, having seen plenty of fresh spoor; but his boy had lost himself, with the water and provisions, and he was obliged to return. I found water five miles to the north-west, this being in the course we have laid down for our expedition on leaving Quarantine vley.

The lemur is now quite lively. He is fond of milk and sugar, and soft gruel. The little animal was tame from the time he was caught. He gives his head to be scratched and jumps about on our hands and faces. He notices every

change made in the wagon, and is then a little bewildered, not eating his supper so freely; but after putting out the light I always hear him munching.

In order to give my brother time to overtake us, we will meanwhile, when we have rain-water enough for the purpose, endeavour to explore 300 miles of the country across the desert north-west to Andersson's last point. We shall leave one wagon and most of the cattle somewhere within 50 miles of this.

Monday, 2nd December.—The chief's messengers leave us. Finished and mounted an axle (of motseara wood), on which John has been long at work, for one of the wagons. Baines ate a frog: the dish was as savoury as it was delicate, the roe being considered the best part. Next day we packed the wagons for a start to the lake on the morrow, but at night again found three head of cattle and a calf showing symptoms of lung-sickness.

Thursday, 5th December.—At the moment when the oxen were brought up to be inspanned, old Dikkop's wife came running over in deep distress, saying her husband was dying. I was absent at the time, but went to see him as soon as I heard of it. I have not witnessed such a distressing spectacle for a long time, if ever. The women had carried him out into the bushes to die, and were all squatted round him, howling a most doleful and melancholy dirge, bathing and chafing his hands, while he lay insensible, with his head resting on his wife's lap, only giving occasional signs of life by a laboured gasp. I felt much concerned for him; he is one of the most trustworthy men I have, and has charge of all the cattle. He had been hurt at Elephant's Kloof, his shoulder and ankle being sprained while inoculating cattle; but what the present attack is I do not know, unless there be some internal hurt in the left breast, near the root of the shoulder, where he has pain. Having given him chloric

ether, and had his feet warmed with hot stones, he came to, and I applied a mustard poultice to the seat of pain. The man had evidently been in a swoon.

This wailing and din of the Damaras round the sick man reminded me of a practice I had witnessed amongst the Zulus, who, having stunned a buck with their kerries, squatted round it, and beat their sticks one against the other, over the body of the insensible animal. It often revives, only to be knocked down again. I witnessed the same practice over a fowl, which I had accidentally stunned with a stone, and the bird revived. The Damaras, as well as the Beach Hottentots in South-western Africa, practise this rite over the dying with some mysterious reference, it may be supposed, to the departing spirit—not to bring it back to life again; though in such a case of suspended animation as poor Dikkop's—like that of the Zulu buck and fowl—the din might serve the latter purpose.

We are now drinking water that almost resembles porridge in its consistency, and it will not filter. Our people, too, are falling sick of fever, one after the other, five being on the sick-list, and two of them seriously ill. There is no more water here for the cattle, so we must make a move somewhere.

Some messengers now arrived from the lake. The chief seems to be getting out of patience at our long delay, though he is himself to blame for it. He requested me to stay here, or we should have gone on before our people got ill, and the water became so scarce. He now sends to say how his heart is pained at not seeing us, and has commissioned a little Bushman, famous for his flattering eloquence, to pour out such a stream of sweet words that I could not hear him out, being nearly choked with laughter before he got very far in his speech. I gathered, however, its drift, to this effect: "I am afraid you are going off to some other tribes; pray come here, and let me get what I can out of you first, and

then you may go to ——." This sentiment lies at the bottom of all his honeyed words. He says: "Who has dared to stop you, my friend? Why do you not come near me, that I may see you, and hold sweet converse, as in former times? All my other white friends have left me; you alone remain. I must cherish you. I say again, Who has dared to stop you? Have you heard the lies of slaves, and believed them? Do not believe I will turn my only friend off. The country belongs to you; come! Lung-sickness, or no lung-sickness, come!"

We left the Kopjies on the 6th of December with one wagon, intending to go only as far as the moana (baobab) tree, 16 miles off, but when we got there next day there was no water, and so we were obliged to push on, and reached Masèllenyani at night, where the wagon stuck in a sand-hill. Baines and I having gone forward, we were overtaken at 9 or 10 o'clock at night by a tremendous storm of thunder and lightning, but without much rain. We were obliged, however, to roll ourselves up in dry bullock-hides to save a wetting, and then go back at midnight to join the wagon. If the rain had left any pools we should have made our camp here, a few miles from the water, but it did not, so on Sunday morning we went on to the lake. I have never seen the country about so dry as it is now. We were obliged to travel two miles along the coast before we got any water for ourselves and our thirsty cattle. The Bechuanas who accompanied us stay with us, but they sent a messenger to inform the chief of our arrival. We hear that all the native cattle have been driven from their stations to clear the way for us. We made our beds in the tent, and at night a storm of rain fell and continued several hours, and drove us out, but not before we and our bedding had got thoroughly wet. The little lemur is now very playful and tame. As soon as the

candle is lit at night he leaps about after the moths and insects attracted by it. I often amuse myself by catching for him those beyond his reach, and he seems perfectly to enter into the spirit of the thing, and to be sensible of the kindness shown him.

We encamped near a thick spreading camel-thorn tree, called the Christmas tree, with dark shade underneath. Some pack-oxen were grazing near, and I sent to urge their drivers to remove them out of our way. A party of Bushmen and others arrived with six boats, to convey me to the town, along with any goods I may have to dispose of, my wagon and cattle to remain where they are. The chief sent word that he could not get away, the women having "tied him up" to make rain first. I sent to say, "I came here at his entreaty to meet him half way at this place, and would not separate myself from my wagons and party. My road lay by his door, and I would wait until he has made the rain."

I have never seen the lake so dry before. The boatmen could not find a landing, owing to the mud, and had to land 10 miles off. Our cattle had great difficulty in getting a drink the first day. Fortunately the rain has since fallen, or we would have had to send back. The Damaras now got plenty of plums (morotonogoè) and motlope berries to eat.

The south banks of the lake are thickly studded with the "wait-a-bit" (real) camel-thorn, another thorn with large upright pods, mochuerie, motseara, and motlope, plums, and other trees. The wait-a-bit is in full bloom, but the leaves are all riddled by the number of bees and insects piercing and devouring them, and making a constant buzzing. I found some peculiar beetles, with claws at the point of the feet, also a green fish-eating beetle. Pelicans are plentiful on the water; the insects are making a constant noise, and are very troublesome at night. A kind of black and white stork is strutting about in great numbers, feeding on termites.

14th December.—Still no signs of the Damaras sent to Amraal's. As they have been away five weeks I am anxiously awaiting their return, in hopes of their bringing tidings of my brother, upon whose assistance all my hopes now depend. The present state of suspense is intolerable. One misfortune has succeeded another to stay our advance, and now, when we at last see our way clear to the passing Lechulatèbe's Town, lung-sickness again appears amongst our cattle. We have slaughtered and hidden three within the last four days, burning the carcases at night; and there are four others showing symptoms of the disease. If I hear nothing to-morrow I will myself go to the town on foot.

The rafts used on Lake Ngami are of two sorts. The one, a reed raft, is made by tying a large number of reeds together in a bundle, sufficient to support the party. The other kind, known as a rush-raft, is made by throwing bulrushes, which are very buoyant, promiscuously together in the water, and the lower ones, owing to their buoyancy, press upwards, and so on; the more that is added the more buoyant the raft. Any weight coming on top presses it down flat, so that it never sinks deep, owing to the great pressure from beneath. I have crossed the lake two or three times in native canoes at the broadest part. The natives prefer going right across, in the larger canoes, but when they see the wind coming up they keep in-shore for fear of filling.

16th December.—This evening, just before sunset, a few clouds came from the north, and a heavy storm from the south. They met, and clashed over the wagon. The thunder and lightning were terrific. The first flash struck an island of green reeds about a mile from us, which in an instant was in a blaze, the flames leaping twenty and thirty feet high in the air. We thought at first it was some signal made by the natives, but there was no appearance of any people. The reeds continued to burn for an hour or more.

Monday, 16*th*.—John shot a vulture and a grey lory. I photographed the morotonogoè (plum). The Bushmen and other natives press an oil from the seeds of the fruit. All the people are fond of eating them. They swallow the whole, except the skin, which is the best way of eating them, if you have a good digestion. These trees have rigid sharp spines, not perfect thorns, which, increasing, throw out others, and become branches themselves. There are several kinds.

Tuesday, 17*th*.—Some messengers arrive to say that the chief, having now made an abundance of rain, will be at liberty to come, and will furnish us with guides to take us round, &c., but we are not to come to the town. I decline, however, to comply with these directions.

Dupa (pastiles) is a great "medicine" with these people; they believe it has awful powers. They learnt it from the Hottentots, who had it from the Malays; these use it as an incense. The chief sent particular messages that I was not to sell pastiles to anyone else, as he wishes for all I have. He wants to cure a man who, they say, was bewitched by Dr. Holden's man with paralysis on one side, because he stole an axe, and they believe that with the aid of dupa they can do everything, gratify any desire, conquer any love, however stubborn, and triumph over any enemy, however strong. These are the stories told them by unprincipled people, who thus obtain ivory under false pretences. Next morning, I missed a tusk of ivory, which was stolen in the night by our visitors. I threatened they should not go until they brought my tusk. The man I suspected, with all his followers, has, however, already taken his departure, so I keep his gun until the tusk is restored. I sent the chief some tea. At the lake, on the 19th of December, 1861: Therm. 84½° Fahr. Water boils $206\frac{7}{10}$°.

Monday, 23*rd*.—The chief came with a large retinue of

200 or 300 men, armed with guns and spears, a very unusual proceeding; their appearance was rather imposing. I decline trading until he pays his debts, which he did, but cheated dreadfully towards the end.

25th December.—The day was half spent before we were aware that it was Christmas. We were packing up botanical specimens for Sir William Hooker at the time, as I intend sending John with one wagon-load of ivory, &c., and letters, to Damara Land, while we go east, and wait. Having

COUNCIL OF WAR AT LAKE NGAMI: MAHALAKOE ADDRESSING THE MULTITUDE.

started two days later, he returned after a couple of hours in great haste, and hardly able to speak from excitement. He had met the Damaras returning from my brother with letters, and brought them on to ascertain whether the contents would alter my plans, and most fortunate it was that I did not go off in the morning, as I had intended. We cannot push on now that we hear my brother is on the road, although at present he is prevented by the Hottentots from coming on. As some of our people are ill of fever, we pro-

pose going back to Koobie, and waiting there for my brother. He must come on, although the Hottentots say that until I come to answer for having brought them the lung-sickness he will not be allowed to pass. By this communication, I get letters from my friends at home, which make me much happier; but the surprise is almost too much for me.

The news was varied. Lamert had caught one of the thieves who stole our horses, and recovered, it is said, five of them; but Gert, with the best horse, is still away, and one had died. My brother sent me three horses, but one had died on the road. Amongst other mournful intelligence was that of the death of Dr. Holden, for whom I entertained a great regard. He died of fever taken while administering medical aid to the many poor Damaras who followed him. Holden, I hear, had discovered that ammonia is a certain cure for horse-sickness.

28*th December*.—All the wagons now start together to return to Koobie. We sleep at Masèllenyani, by one trek. Insects and moths are plentiful at night. The next day we trek to Mamakhoowè, the moana tree, and thence to where I killed the lion, and sleep there. Next day we trekked three miles, and were stopped by rain. I sent messengers with letters for my brother, keeping John back till we hear that it will be safe for him to go down. On the 31st we struck out of the road at the Kopjies, and trekked north-west, intending to go a few days in that direction, and make a camp, and go farther north with one wagon, to hunt until my brother comes.

1*st January*, 1862.—We look for a road and water; not finding any, go back on the morrow to our old road towards Koobie. The sun has now great power, and it is very hot when one goes out, any shade being pleasant. However, since the rains have fallen, and the trees and grasses are

green, we seldom have the thermometer above 70°. I fancy that when walking amongst trees, though not in the shade, the sun's heat does not affect me so much as walking on an open plain. I found a great many varieties of convolvuli, but none were variegated; also an insect laying two white eggs, attached to each other. Can these be male and female?

Next day we left New Year's vley, and made two treks. During the first we struck our old road, and during the second we were stopped by rain, just opposite the Bushman's well. Sent the cattle on to Mahalaapye, to sleep in the kraal. There we breakfasted next morning, and then trekked to the Observation Tree at Koobie, where we were met by a thunder-storm and rain. Everything was now green and rank, and water plentiful.

Our first business now was to look for a place to camp, out of the thick bush, so that leopards and lions may not plague us, and we may be able to see more than fifty yards round. Shot a steinbok. In the afternoon we trekked one mile north-west from Koobie, and unyoked at a pan on the edge of a plain, in an old river-course. We cleared away the bushes under a large mochuerie tree, and the forewheel of one wagon stuck in a Bushman's grave, or, rather, in the excavation made by a wolf in his endeavours to get at the corpse. My people are vexed at our encamping in the midst of a field of mice-holes, &c., as they fear snakes, and we had a great number of them stopped.

Baines and I went with one wagon in a north-west direction to hunt and explore. Some Bushmen followed us. We travelled in two days about 17 miles, to an old river-bed, and, finding it a convenient place for the purpose, sent back the wagon to bring up our camp.

At noon on the following day, hearing the sound of a whip, we concluded that the wagons were near at hand. Going out to meet them, I saw, to my infinite surprise and

joy, my brother, accompanied by Mr. Barry, and my friend, young Bell, of Cape Town. This was a pleasure which compensated for a long term of painful anxiety and suspense. My friends had experienced much trouble and great annoyances in their journey, enough to have disheartened older men. My brother had brought up only the four end sections of the two boats, which was all he could manage in the two wagons, with the quantity of luggage and supplies with which they were loaded.

The question now was, how were we to proceed? We have great interest in Damara Land—250 oxen to get out of it as soon as we can. Fever is very bad at the lake, so that we propose making a camp with three wagons, and going north-west with one, to try if there is a possibility of reaching the Omaramba Omatako, and thus securing a road by which we could be independent of the Gam Ngaka Hottentots, who seem disposed for the future to give travellers great trouble. It seems likely that when old Amraal dies they will turn out a nation of robbers.

I sent back the wagon at once to bring up the rest of my party, and on the third day they arrived. In the meantime we looked about for game; but the signal guns fired for Baines, after the elephant-hunt, had evidently frightened those animals out of the country. We therefore moved farther westward, and made a camp on an open plain in the valley. Here we constructed a very formidable ambush at the water; a trench fourteen feet long, by four deep, covered with poles overspread with grass and earth; an opening was left to watch and shoot from, but during three nights of patient watching nothing came.

Thursday, 16*th*.—We left the standing camp, and, travelling six and a half miles west by south, made another hole, where I lay by the water with my brother; but nothing came. My brother tells me that Jonker Africaner claimed kindred

with the Bushmen of Ovambo Land, who are a fine race, speaking the Hottentot language. They fled many years ago from the south, in consequence of an epidemic disease which carried off great numbers of people. These Bushmen are perhaps the same known to the Lake people by the name of Makawkow, who live north-west of the Bataoana, a very independent race, and have slaves, but possess no cattle.

Saturday, 18th.—We travelled fifteen miles north-west without guides, over a very dry country, finding water towards evening, and some fresh spoors. A party of Bushmen overtook us, who wished to conduct us south-west, asserting that there is no water in any other direction. While out examining the country we started an elephant, which must have come along the path we were pursuing, but the dogs ranging a few yards ahead, frightened him, and gave chase. We followed a short distance, but as it was growing dark, and we could not fetch up, we abandoned it. We all drank some milk before going to bed. My brother and myself were immediately seized with violent vomiting. I was very bad all night, and thought we had been poisoned. Baines and Barry also felt unwell, and two Damaras who drank of the milk were also very ill. This may have arisen from some peculiar plant eaten by the cows.

I had again lost seven fine dogs in a week from inflammation of the lungs, ending in convulsions and paralysis, and, two others being found ill, I administered tartar emetic, and they recovered. I have now lost upwards of forty dogs by this mysterious disease. Can it have any connection with the murrain in the cattle, both attacking the lungs or other inflamed parts? I shot a pretty night-hawk, and found some pretty birds' nests made of cotton, with a sort of vestibule for the male bird to roost in, and some other nests made of spiders' webs. I also gathered a few of the cocoons of some insects (I think the mantis), which I learn from the Damaras

are very efficacious in the cure of sore throat, or a disease in the glands of the throat. It is found chiefly on the mogonono trees and haakdoorn.

Monday, 20th.—We travelled four and a half miles north by east, and stayed in a grove of motseara trees at the junction of two dums (Bushman for old river-beds, which the Damaras call omaramba, and the Bechuanas, molapo). Here two elephants had been seen by some Bushmen, who followed us with the view of persuading us to turn back to their districts, saying there was no water anywhere else. As some of these Bushmen are from the west, we have to keep a sharp look-out after the horses, for fear they may have come from our friend Gert. Others came from the lake side, who, like Koobie, were persistent in their asserted ignorance of the country to the north, and tried everything in their power to take us back towards the lake; but I cannot help thinking they are acting under advices from Lechulatèbe, he very likely fearing that I would endeavour to carry out my oft-repeated threat of opening a road through this desert to Lebèbè's.

Large flocks of black and white storks, whistling about in chase of a bulky kind of grasshopper, or cricket, and termites. These latter insects, and the activity of the birds, are sure signs of rain. The insects are very busy laying in a store of provender before a shower, and these birds, as well as some varieties of hawks, are very plentiful in chase of them. When alarmed, or when attracted by any agreeable object in the distance, the whole flock fly from or to it with such a velocity that, though the birds may be nearly out of sight, their wings sound with a startling effect upon the ears, like the discordant tones of untuned organs. I made every inquiry, and offered handsome bribes to the Bushmen to conduct us to a spring of any kind, but without avail. My plan is to pretend no particular anxiety about the object I have in view, or if I ask them about a fountain, not to ask it in

a pressing manner, but, if possible, draw it out in the course of conversation.

As I find that several of the roots of the gourds growing in this country are edible, mostly resembling yams in taste and appearance, I made a collection of seeds. The flowers of these plants all resemble those of melons or cucumbers, being cruciform, while the leaves and plants themselves are like the passion-flower, excepting the yellow aculeated gourd. There are what we call the wild cucumbers—red and green—several kinds, with very small red gourds. There is one very sweet red fruit, rifled with narrow grooves. The roots of all these are eatable, and, like that of the morama (Sechuana) (which bears the tamani), is like a yam, and also eatable.

Wednesday, 22nd.—We trekked about due north seven and a quarter miles, and reached a pan called Karroop.* Here is an old river-bed. We saw a troop of wildebeests, which made off, and the white and black storks ranged themselves into deep ranks for fully half a mile in close order, the two tribes keeping perfectly separate. I fired a ball into their midst, and as they flew up two were left on the ground. We also secured several other birds for stuffing.

This river-bed, which flows into the lake, is called Thannis by the Bushmen. One branch flows into it from Koobie, somewhere to the north-east. It is said to come a long way from the north-west, and we think of following it in the hope that it may turn out to have some connection with the Omaramba Omatako.

I find that the Ceylon rose, which I mentioned before as growing near Barmen, is, as I suspected, the other poison with which the Damaras tip their arrows in war. The smell of

* A pan is a circular depression, on which generally a saline incrustation remains after the evaporation or absorption of the water. The ground in such places is generally impregnated with nitre, and forms "licks" for the game.

the flower is also said to be very poisonous. The flower and tree are both finer than those I have seen growing in the colony. The leaf and flower are larger, and the tree is not so scabby. A white, stunted variety grows also near the lake, in limestone country, near springs. In the afternoon we travel eight or nine miles farther, passing by the junction of this dum with the one we left this morning. Here it opens out into a valley, probably three miles broad. We travelled up the northern side of it, where the bank is more abrupt than on the opposite side, and is generally a ridge of red sandstone or limestone. These valleys are generally overgrown with haakdoorn (*M. horridicus*) and bastard camel-thorn, while the intervening country, if not the usual *bonte-veld* or *eland-veld*—open plains dotted with low bushes, chiefly moretloa (*Grewia flava*), and several kinds of rank grasses, bulbs, and creepers—consists of a succession of sandy bults or ridges, covered with mogonono, which is the elephant's principal food, and with a kind of acidulated berry, of which they are also very fond. These bults are intersected with broad elephant paths, leading to the dums, in the bed of which a large path is generally to be found, connecting the successive pools, which, owing to the harder nature of the earth—a sandy, blackish loam—are generally found at shorter or longer intervals. We passed several of these pools, or vleys, with rain-water in them, and two in limestone, which seem to have been wells at one time or other.

Thursday, 23*rd*.—On waking this morning we found the Bushmen had decamped during the night. This is very mysterious behaviour, as they had just promised to take us to a spring in this dum (N. 60 W.), where it is joined by another. We encamped without water, and during the next forenoon's trek we found none either; and as the country was so very dry, and the deepest vley we had yet seen anywhere contained no water, we sent the cattle back to the last vley, eight

or nine miles off, and then sent several miles in advance in search of some for our kettle. Both parties return in the evening.

Friday, 24th.—We travelled about five miles N.NW. to some vleys. Here we proposed staying with the wagon until the driver we had sent for came. We shot and skinned some birds, among which was a long-tailed finch (king rooi bekkie). The four tail feathers are quite bare, excepting at the end; the back and wings black; breast and belly yellow creamy colour; neck white.

Saturday, 25th.—I sent four Damaras exploring NW.N. and W. for the spring. They return after an absence of six hours, having fallen in with elephants at a very large vley. They came without the dogs which they took with them, and, on being questioned about them, frankly confessed that when they saw the elephants, although one of them had a gun and ammunition, they ran away at once, leaving the dogs baying or fighting with an elephant. Next day I sent some of the men to dig a hole by the large vley, to which we trekked, about four and three quarters miles distant. Thinking we saw palm trees to the north-westward, I rode out to examine them, and came upon a Bushman's hut with several occupants. One of the Damaras who were with me walked up to them. The Bushmen, who did not observe him until he was close at hand, sprang up, and one of them was in the act of spearing him when they saw me coming up on horseback. He then relinquished his purpose, and the party, seven in number, moved off a few paces and abused us, pointing to my men, and saying (in Damara), "Nawa-kako" ("No good"). I made signs to them, and, giving my gun to the Damara, rode towards them unarmed. The Bushmen became almost frantic as I approached. One aimed a deadly shaft at me, while the others threatened with their spears; but seeing that I still approached, they moved off. I shouted and made signs in

vain—they continued threatening to shoot me; but as I again drew nearer, they made off. If I could have spoken the Hottentot language, they might perhaps have understood me, and I might have induced them to follow. However, I rode on. As soon as they were out of sight I turned towards the wagon to send John to speak to them and try and convince them of our peaceable character. Before leaving I observed that one of my Damaras had taken a piece of meat from the hut, and this had probably given offence. I made him restore the meat, and on reaching the wagon ordered him two dozen lashes.

A new feature in the woods in this country is an acacia very like the haakdoorn, but larger, straighter, and with a thicker stem. The clumps of large green sweet gums look very pretty in the plains, covered with rank sweet grass, and generally indicate the presence of vleys. To the west the country looks much firmer, the soil bluish sandy loam: low white-thorn bushes and others, which are generally signs of springs being somewhere near.

Wednesday, 29th.—Last night, on going to the vley at sunset, I saw two elephants, and wounded one of them, when the Damaras ran away with my gun, ammunition, blankets, &c., leaving me in the lurch, and not coming back until I went for them. Shortly after dark a bull-elephant came down at the head of a small troop of cows and calves, while another brought up the rear. The first bull walked round the vley, smelling the ground, and followed our spoors right up to one of the skaarms, towering over us to a tremendous height. I took my gun and snapped it three times at the elephant's breast, not four paces distant, and then found the cap had been taken off by some one. While I seized another gun the bull walked off to give the alarm, and I gave a large cow, or young bull, standing broadside, a shot: uttering a scream of pain he charged the skaarm with the rest, but, mistrusting

the loose earth thrown out of the pit, the whole herd turned off and fled. Shortly after this two other bulls came; I fired at the shoulder of one and broke it. The beast stumbled about, and I was just going to creep up and give him another shot, when, on second thoughts, as he managed to get a few paces from the water, I preferred leaving him standing till daylight, for the purpose of photographing him first, and killing him afterwards. Next came a bull, which I shot through the heart; he shrieked, and, dashing into the forest, I heard him fall, and he died a short way off. Again one came, and then another. I fired as best I could, in the dark drizzling night, at the distance at which they stood, and with bullets three sizes less than the bore of my gun. They all rushed off screaming to the shot, and then, after a time, came two other bulls. They walked up to the wounded one, fondled and smelt at him, and presently one of them came down to the water, and stood towering close over me. I shot him in the heart; he shrieked, and, throwing his trunk aloft, turned on his heels and fled, breaking down all before him. Another bull came, and him also I wounded. This was the eighth I shot since coming to the skaarm. Never have I seen anything like their tameness. The elephants here evidently do not know what a gun is, for some were standing close by when I fired at the others, and they still came down to drink. Next morning I found by the bullet-wound that the bull with the broken shoulder, at which I fired early in the evening, was the one that came back again to drink.

As day broke we got out of the ambush, and, sending for my apparatus, enjoining the messenger not to bring any dogs, searched for this elephant, but to my great surprise he was gone. Soon afterwards came the Damaras, with all our dogs ranging about the country. Here, then, my prospect of photographing a live African elephant was nipped in its bud. The dogs were not to be caught again. We could only follow

them to the trumpeting of the wounded elephant as they assailed him, and, coming up, we put an end to him. One other elephant was found close to the water; but it was impossible to get our Damaras to hunt for any of the others, five in all, with such abundance of meat waiting for them. Subsequently, however, the tusks of three others were brought in by the Bushmen. The remaining two they were robbed of by Lechulatèbe's people.

Next night my brother and I lay by the water, and heard only the howling of wolves. In the evening we walked to a skaarm which we had made seven miles off to the south. A tiger and a wolf came. We were horribly tormented with mosquitoes and ants all night, but did not get a shot at anything, there being so many vley waters all over the country. It seems quite a chance whether the game will come to that particular pool at which you lie.

1*st February*, 1862.—Still at Sleepy Hollow, as we named the scene of the adventure last narrated. Searched for the dead elephants, but, as in this country there are so few vultures, it is a difficult thing to find them; had I not known where the two first elephants dropped we should, in all probability, never have found them, though they lay rotting close by. The vultures were three or four days in making their appearance, but one elephant (the lean one, of course) they did not touch at all. The adjutants were more numerous on the carcase than vultures; they must have come from a very great distance. Hawks and brown kites are also numerous; the latter only hovering over the carcase, snatching up a piece occasionally. It is a very bold bird.

Proceeding (N. 60 W.) next day along the Omaramba, and passing several vleys, I shot a small blue heron, which measured, from tip to tip of wings, twenty-four inches; from tip of beak to feet, fifteen inches; beak black, green

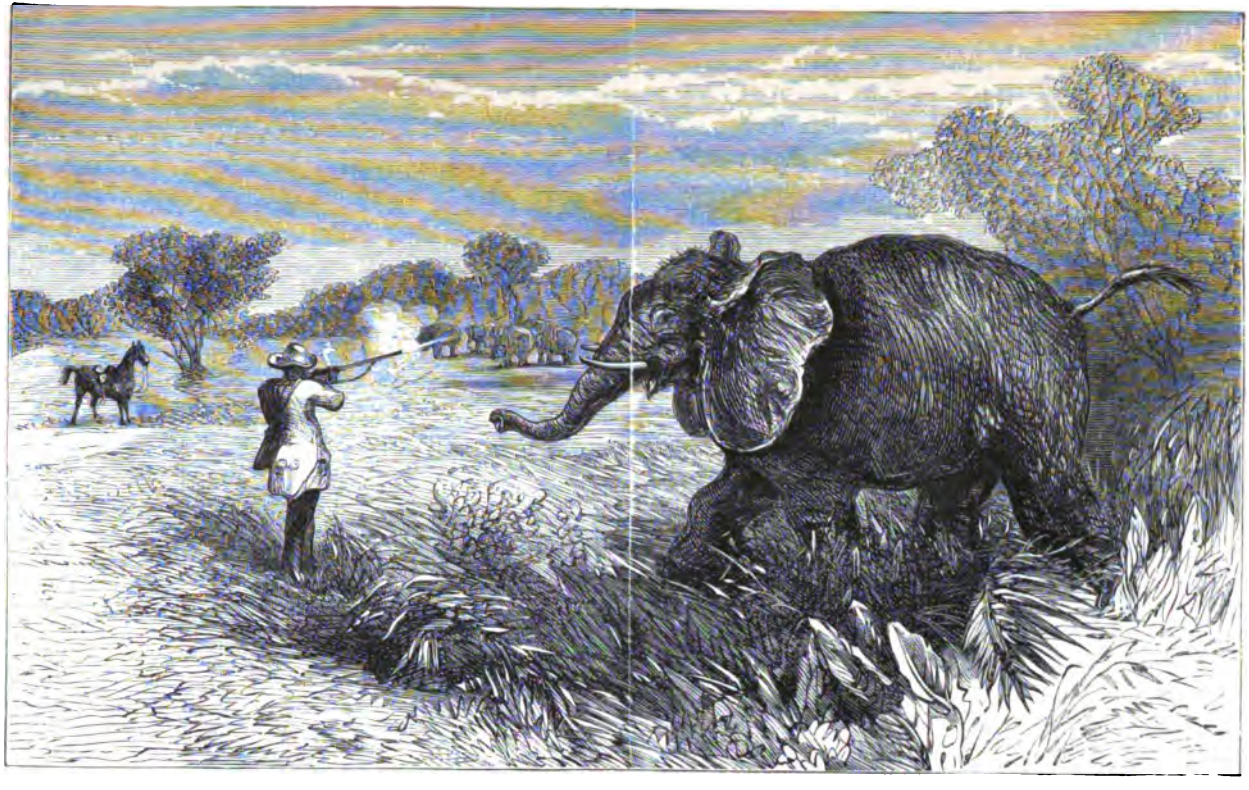
at base (by the jaws); general colour, slate blue; breast and inside of thighs, cream yellow; the feathers down the throat and under-side of neck edged with pale yellow; eyes dark sherry colour. A bunch of white down on breast under the other feathers, and ditto on either side of rump; legs yellowish green, with olive on the front of legs. I also shot another yellow finch, with long tail, and a bustle at the base of it. I think, if not already named, it ought to be called the *Crinoline* finch.

3rd February.—I fancy we are getting nearer to the Teougé, or a branch of it; because I observe here are the fish-eating beetles which I have seen nowhere else but on the lake and the rivers flowing into it. It appears to me that the Omaramba Omatako must be an overflow from the Teougé. I suppose this, because I hear that Green one year found it a running stream with abundance of fish in it, and the next year he had to dig a great depth for a small supply of water. Spoors of elephants continued abundant during our farther course along the valley, but no animals were seen until the afternoon of Wednesday (5th February), when the cry of "an elephant" reached my ears. Ordering a horse to be saddled immediately, I ran off at once to stalk the beast, and give him the first shot, which I did, but with a gun which had recently been shortened, so that the shot was not deadly. The dogs soon tackled him, when he charged furiously past me, trumpeting loudly. While I was striving to overtake him on foot, the horses were brought. I mounted the best, and he dashed up bravely enough to the elephant, who, seeing me when I was still 150 yards off, charged past all the dogs at me. I turned my horse's head and spurred him, but as soon as he heard the elephant's trumpet close behind him he became perfectly paralysed, and refused to move. The elephant still came on; I renewed my efforts in vain, and nearly despaired of my life; but this was

only for a moment, for the next the danger was too imminent for me to be inactive. As the elephant was within a few yards of me I turned in the saddle, intending to place my last trust in my rifle, and raised it to his forehead; whether the act frightened the elephant, or what else induced him, I do not know, but he turned away with uplifted head into the bush. I was glad to let him go; and as I was on the plain, quite unsheltered, I did not attempt to fire, but, abandoning so useless and dangerous a horse, I took up the chase on foot, as hard as I could, for a mile or more. Finding myself unable to get a shot, I sent for my horse, with which I again approached, intending to abandon him when near enough to the elephant, but either he heard my horse's hoofs, or smelt us, and before I could get his head turned to fire he charged at me. The same fear again seized my horse, which seemed to become so weak in his legs that I could feel him tremble under me. He again refused to move, and, slipping from the saddle, I fled on foot down the wind for some concealment; but other objects now attracted his attention, and, the bush rather impeding his progress, I got safely away at every charge, having given him only one other shot. By this time the dogs, like myself, were quite exhausted; he had taken us a chase of four miles. I followed the spoor once more, and fired another shot, merely to encourage the dogs, but they were fairly done up. The elephant never attempted to molest the horse.

I was too tired to watch by the water at night. Baines, therefore, watched at one skaarm, and Bell and my brother went to the other. A thunder-storm burst in the night, and rain fell in torrents. Their skaarms were six inches deep in water, and they spent a miserable night; my brother suffered from an attack of rheumatism.

Friday, 7th.—I hunted with the Damaras, and on returning found about thirty Bushmen at the wagon; some of those who



DESERTED BY MY HORSE.

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fled from us the other day were amongst the number. We heard of a fountain several days north, and a vley north-west by west, where elephants are plentiful. The Bushmen first said the fountain was only a day from hence, now they say it is very far. They evidently want to take us in the direction of their own abode, so that we may kill game for them. In accordance with a well-established Oriental custom, they had left their spears and sandals a long way off when they came to the wagons; indeed, we have not seen their weapons yet. They are an independent and very bold sort of people, more so than any other I have yet seen. They speak a strange dialect—some knowing a little Damara, but none of them Sechuana. I shot here two cranes of a peculiar kind, a snow-white spoonbill of the ordinary size, and a beautiful little heron.

Our advance in a north-westerly direction was continued, with considerable difficulty, for a couple of days longer. Small parties of Bushmen continue to visit us. They seem frightened; but we cannot understand them, nor they us, as they speak a different language to either the Ovambo Bushmen, or those of Ghanze, Koobie, or the lake. We observed here a kind of dwarf aloe, with a very pretty red flower on a tall branching stem. The leaf of the plant is green, with transverse bars of white spots placed close together.

At the point where, on the 9th of February, we turned back from the course we had been pursuing for some weeks, we found water boil at $206\frac{9}{10}°$; therm. 80°. The moretloa berries are here of two kinds, purple and yellow.

Monday, 10th February.—We trekked back through Norton Shaw valley to Wheeler vleys—names which we had agreed to confer upon the localities in question, in compliment to the then acting secretary and librarian of the Royal Geographical Society of London. At the last-named, the dogs killed an egoana, which our Damaras, for a wonder, refuse to eat.

They say it is only food for women, or old men who are past running. If they were to eat, or even handle it, they will not be able to run any more.

Tuesday, 11th.—Last night, at about 10 o'clock, the Bushmen came in a state of excitement, and told Baines there were elephants down in the valley. He determined to have a look at them. Some dogs followed, attacked the elephants, and brought the troop charging furiously towards the wagon. Their angry trumpeting was truly fearful. The troop halted only 80 or 100 yards from the wagon, and it was a great relief to hear them at length go away. Even as it was, I was obliged to get out of my bed (which I had kept all day, being unwell), and with my gun, undressed as I was, prepare for flight to the first bush or tree, should they really charge upon the wagon, as I feared they would. The din was astounding, men, women, and children, horses, cattle, sheep, and dogs, all giving utterance to their terror in a Babel confusion of tongues; and, high above all, sounded the loud trumpets of the infuriated elephants, protecting their young from the attacks of our dogs, charging from their dusky ranks, and again returning to form their square. The din and turmoil may be compared to that of a great battle.

Baines and my brother fell in to-day with a troop of cow-elephants, but they had no success with them. I rode out 18 miles in search of elephants, but found none.

For the last three evenings there has been a very bright illumination in the west, but this evening far surpassed them. It seemed long after sunset, for it was quite dark, excepting in the western horizon, where the hemisphere seemed to be on fire; indeed, I could hardly persuade myself that it was not fire. The sky, just above the horizon, was of a fiery-yellow colour, and the clouds, tinged with orange, gold, and purple hues, were the most brilliant I had ever seen. I stood wondering what could be the cause of this strange phenome-

non, when I observed that the sky, excepting a small strip in the west, was everywhere enveloped in very dense clouds, which, I suppose, brought on a premature darkness, and the brilliancy of the sunset, through the small opening in the clouds, contrasting with the prevailing gloom, showed to such great advantage.

12*th February.* — Rode about 18 miles in search of elephants, and saw none; but wounded a cock ostrich and chased him: he doubled, however, in the bushes. We all got separated, and returned after five or six hours to the wagon. Some of the Bushmen went back to look for the ostrich.

Next day I walked out four or five miles, and shot some birds. About thirty Bushmen appeared, but we could not understand each other. I took them to the wagon, but we got on there no better. I sent the Bushmen with some Damaras to look for the ostrich, but the former ran away. We learnt from them, by signs, that elephants and water were plentiful southwards, and they are to take us in that direction to-morrow. Water boils $206\frac{3}{10}°$; therm. 75°.

Pursuing our return course, we reached Adjutant vley, and, afterwards, Sleepy Hollow, where we found that the Bushmen had stolen all the flesh which our people had left there.

The thermometer generally ranges from 90° to 96° on warm days, in the shade, a very moderate and endurable temperature. Before the cooling influence of rains, it was generally above 100°. I expect in March it will be hot again. I think October, November, and December are the hottest months here. It is now hottest at sunset.

As the waters are drying up, we continue to move on towards the standing camp in Union Valley.

The crop-berries flower as late as February and March, and, consequently, are still moist when all other berries are dried up. Having an acid taste, they are very agreeable to

a thirsty palate. I find that the long-tailed bird has no bunch of feathers on the rump, as I had at first supposed, but one or two only, broad, vertical, rudder-like feathers, and two spirally-twisted filaments beneath. At Deep vley, water boils $206\frac{4}{10}°$; therm. 85°.

21*st February.*—We trek seven miles before breakfast to the Round vley, when we all went out to feed on moretloa berries. We passed one or two other fine vleys, but with a very scanty supply of water. This vley has had but very little this year. I reckon the watershed lies between this vley and the one where we last slept. We yesterday caught a snake in a tree which we brought up against, and had to cut down. This evening Baines found a cerastes, or horned snake. They are common everywhere, from the Cape to Ovambo Land, on the west side of the continent. In Ovambo Land particularly, my brother tells me, they are so numerous that after a fall of rain, which succeeded a severe and long-continued drought, the ground was covered with these venomous reptiles, so that they could hardly walk without treading on them. They lay coiled up in the paths, with their heads in the middle, and utter a hissing noise when approached or disturbed. These snakes are about fifteen inches long, of a dark cream colour, with square checkered spots, larger on the back and smaller on the side. They are viviparous, and feed on insects and small reptiles. The muzzle is blunt, the head thick, with a bony protuberance over each eye, which is, however, covered with skin. The fangs, which are very sharp, are exposed about a quarter of an inch, and their large eyes have a vertical narrow pupil, which adds to the fierceness of their appearance.

Andersson, I apprehend, is mistaken in his estimate of the Ovambo character. He considers them a very loose people; but my brother, who has had a longer experience among

them, says that they are very chaste. Adultery is a capital offence, both the man and woman being put to death when convicted of this crime. Their mode of inflicting capital punishment is by putting a rope round the neck, which is tied to the heels, and then drawn tight until the neck breaks. Dr. Livingstone also is in error when he asserts, with regard to certain loathsome diseases, that they do not prevail among the people of pure negro race. He will alter his opinion after a very short experience among the Berg-Damaras, as well as the Cattle-Damaras, unless these are not considered negroes. I believe, however, that these people were perfectly free from these diseases, as were also the Bechuanas and Zulus, until they were introduced by the Hottentots.

In our trek to the Karroop, which formed our next stage, we saw some ostriches and gemsboks.

Saturday, 22nd February.—Baines and I rode after some gemsboks and quaggas without success. I shot a dozen glossy black and white storks, and photographed them. We find these birds in large numbers, but the white storks and adjutants are gone, except a few. Ostriches seem plentiful in this neighbourhood. The black storks feed on the cricket or corn-eater—a thick kind of grasshopper, without wings, which are plentiful on the bushes and trunks of trees.

We now made up our minds to follow up the Omaramba about 10 or 15 miles east, as it promised to offer us some game. Rhinoceroses visited the pan last night, and their spoors are to be seen to the eastward. The pan is, as usual, overgrown with a sharp, prickly grass, and the banks with vyn-doorn (white-thorn), intermixed with stunted aromatic herbs, with which the Damaras are in the habit of perfuming themselves. One in particular, which looks very much like mint, has a down on the seeds, which some birds are in the habit of making their nests of. Another is a trefoil with

pea-flower, which grows near the vleys, and has a stronger odour. This the Hottentot women esteem very much as a scent, and with them goes by the name of buchu, the smell of which it somewhat resembles. The white (Ceylon?) rose also grows here, and also the other white and yellow stem flowers which we found at Koobie are here only now in blossom. The rains are so partial that vegetation, in some parts, is not now so much advanced as we found it elsewhere in November.

The country to the west of the pan opens out into a broad valley or plain, bounded on either side with a bult or ridge about fifty feet high. These ridges are overgrown with mogonono, seringa, motseara, and other large trees, but the plain between them is sprinkled with low bushes bearing moretloa berries, which just now are very abundant. We made a very good imitation of cider of some of these berries by pouring hot water on them, and allowing them to ferment for three or four days. The country is very level, being, according to my observations, at our farthest point west, only 150 feet above the level of the lake, and these valleys or undulations are so numerous, and their courses (excepting the larger ones) so capricious, that it is difficult to ascertain their direction. It seems, however, certain that this valley, in which we now are, tends to the lake, while those at our farthest point west went in an opposite direction, and, according to the reports of Bushmen, inclined afterwards to the north. On reaching the pan, we again meet with the camel-thorn and motseara, which we had lost sight of in our way up—large sweet gums and bastard camel-thorns taking their places. The melons and gourds are much larger, and very plentiful, in this latitude, but we find no cucumbers.

Sunday, 23rd February.—We moved on to the water, which Johnny reported to be visited by rhinoceroses. After

passing the pan, which is about two miles long, and proceeding for about an hour down the valley, it opened out into a broad and level plain, overgrown in the hollow with low white thorns, and the plain on the sides with rank grass waving like corn-fields. Here and there a picturesque group of wagt-een-beetjes indicate the presence of a vley. The bult, which on the northern side of the valley is more abrupt than the one on the south, is composed of limestone and a hard red sandstone. We kept down the southern side, and found some fine large vleys at about eight miles' distance from the Karroop, where a lesser valley from the south seemed to join the one we had passed. The soil at the head of the valley is a saline kind of compact bluish earth or clay.

We observed here a hawk, which, to us, is an entire stranger. I have never seen anything to equal its activity and velocity. It took a cunning advantage of the other birds by flying constantly alongside of the wagon, and as the crouching and terrified birds were just up by it the hawks pounced upon them with the speed of an arrow.

In the afternoon, my brother and I rode out south-east eight miles along an elephant path, to examine the country for spoors of game. The path turned out of the valley (which is here very broad) through a very thick forest of motseara and underwood, such as are found on the banks of the lake.

The following observations were made during this portion of our journey:—

			Thermometer
Water boils at the	Turnback	$206\frac{9}{20}°$	80°
„ „	Wheeler Vley	$206\frac{3}{10}°$	75°
„ „	Sleepy Hollow	$206\frac{7}{10}°$	73°
„ „	Deep Vley	$206\frac{5}{10}°$	85°
„ „	Karroop	$206\frac{9}{20}°$	82°
„ „	Adjutant Vley	$206\frac{4}{10}°$	76°
„ „	„	$206\frac{11}{20}°$	94°
„ „	„	$206\frac{11}{20}°$	94°
„ „	Head of the Omaramba ..	$206\frac{1}{10}°$	73°

The milk of our cows has of late a very nauseous taste, owing to their eating a peculiar creeping plant, with narrow leaves and small white flower. In some other parts of the country the cattle find a bulb tasting like garlic, their feeding on the leaves of which imparts to the milk a very disagreeable taste.

I found a fine insect of the order *Cantharidæ*. Its odour is so powerful, and at the same time so pleasant, that one of these insects put into a bottle of spirits of wine makes it a most delicious scent.

27th February.—We start for the standing camp (in Union Valley), Baines and myself on horseback. On the way thither we fell in with three fine male elephants, which we chased for some hours, but ultimately lost them, and, losing sight of one another, arrived at the camp by different routes.

Tuesday, 5th March.—We left the standing camp and moved towards New Year's vley, Baines and I riding ahead. We saw fresh elephant spoors, and also a giraffe, to which I gave chase, but, my horse knocking up, it escaped with only a bullet-wound. This was vexing, but my horse took fright at him. We afterwards fell in with some quaggas and a gemsbok; I gave chase to the latter, and killed it at the third shot. Next day observing a beautiful bee-eater while walking ahead, I stopped the wagons and sent my brother to shoot it. It is a very pretty bird; another of a very brilliant violet colour I did not get. It looks like a flame of fire. I have only once seen it.

On the 6th we made about ten miles, and lost sight of one wagon, which did not even arrive at night. Found only a little water for ourselves. My brother and I rode out in search of some for the cattle. We saw two elephant bulls. My gun missed fire three times, and, to my great mortification, we lost them.

7th March.—We trekked on to New Year's vley, which we struck without any other assistance than our observations and compasses, much to the surprise of our Damaras. We found water, but it was rather scarce, as the elephants had stirred into mud all the pools, which they ceased to frequent when the water was nearly exhausted. We met here some Bushmen with whom we can converse, as they speak Sechuana fluently. We learnt from them that large game of all sorts is plentiful at the other side of Quarantine vley. We propose, therefore, to keep the wagons and cattle here, for fear of driving them away, and hunt from thence while there is anything to be found. Next day we accordingly made a skaarm at Quarantine vley, and my brother and myself lay there. Two elephant bulls and two cows came to drink after the moon set, but they saw the skaarm, and were running off, when I gave one bull a shot. An hour afterwards a small troop of cows and calves came at a smart pace; but, although it was very dark, they either observed where spars had been cut for the skaarm, or saw our heads, and were galloping off when I gave one a shot which sent her on trumpeting, and we thought, from her repeated groans, that she would die. Before morning, and long after sunrise, other troops of elephants made a frightful noise to the eastward, either in playfulness or rage, or lamentation, perhaps, over the dead cow; but we were too fatigued with the night's watching to go after them.

CHAPTER II.

At the Kopjies again—Proceed to the Botletlie River—Tree-snakes—Ostriches—the Quabie Hills—Mortality among the Dogs—Native Fruits—Occupations of Natives—Native Conjurers—Move to the Eastward—Native Trees—Makato's Village—Native Turtle—Eagles—Atmospheric Phenomena—Contributions to Natural History—Elephants again—Salt-pans—Mirage—Gradual Desiccation of the Country.

WE now determined to shape our course eastwardly for the Botletlie river, passing along a route lying 20 or 30 miles to the south of the lake. In an early stage of this route I shot a white rhinoceros cow, very fat, and a fine elephant bull (my fiftieth) 11 ft. 8 in. in height. Adjutant-birds were found in thousands, though not so large as the Indian species is said to be; some white storks and ibises also. I also shot a beautiful white-headed black vulture; neck and cheek bare, and skin pale violet; breast and neck white down covered with loose black feathers; legs dull rose colour, beak duller; bill bluish grey at base; eyes black; expanse of wings, 6 ft. 5 in.; bill to end of tail, 3 ft. 1 in.; bill to end of toes, 3 ft. 2 in. Thick white down under the wings; inner quill feathers under the wings, white, gradually getting darker towards the end.

We shot four varieties of vultures. The largest is a dark brown or dull black, the thighs covered with thick white down, head and neck bare, purple skin, cheeks slate colour, pale greyish blue legs, and very powerful broad, thick, horny-coloured mandibles; breast covered with thick whitish down,

over which are long narrow brown feathers; bristles under throat, and a few hairs over the eyes and head; expanse of wings, 8ft.; beak to tail, 3ft. 10in.; beak to toe, 3ft. 10in. One of the dark brown vultures (a male), wings, 5ft.; back of neck and crown of head covered with brownish down, underneath bare flesh-colour skin; breast, white down underneath; legs, white down with sprinkling of coarse black feathers; long slender mandibles, grey flesh-colour at base.

15*th March.*—Some of us went in search of game. My brother ascended one of the Kopjie hills and saw the waters of Lake Ngami from their summit, and some buffaloes in the distance, and descended in search of them, but could not find them. In the evening a Bushman arrived from the lake with a message. The chief affects to be angry, and says he is at war with us because I took a gun away from his servant, who stole a tusk of ivory, and also on account of our entering his country with lung-sick cattle. At the same time he sends word that he has sent out a commando to assist a tribe of Barolongs, on the Botletlie, against Chapo, chief of the Bakurutsie; he therefore wants guns and powder, and I must bring him plenty. He says he has recovered all the things his people pilfered from me, and I must come and get them.

As the elephants had all suddenly and mysteriously disappeared, we resolved to move forward, in order to economise distance, and keep away a little longer from the malaria of the Lake country: we determine, therefore, on making as straight a course as we can for Pelani's village on the Boltetlie river, travelling parallel with the south coast of the lake to the Quèbè hills, which lie somewhere south of the town, about the same distance from it as these hills are from the lake. We can then, when opposite the town, halt a day or two for trade, and we shall, by this means, also keep clear of their cattle, although there cannot be the slightest

danger, as we have now not had a case of lung-sickness for many months. Accordingly, next day, we started for Sese, keeping clear of the hills and to the south of them, and steered east about six miles. After passing some old dry cattle pits of Taoani's time, we came to a fine large vley. In the afternoon we travelled without any path, and slept at another vley, opposite the Lubelo hills, about six and a half miles farther on in the same direction, where we found the remains of a buffalo recently killed by lions. On the morrow we held a little more south. After three miles we came to a vley, Sebubumpie, in a broad flat, or valley, coming from beyond Quarantine vley, and also a fine deep vley of water, called Little Molenyani.

At this season of the year a kind of hybiscus begins to ripen its seeds. The plant has a grey-purple flower, and the leaves yield a strong musk-like odour. This plant is covered with short hairs, or thorns, which are often scattered by the wind, and driven into our wagons and blankets, causing us dreadful torture. They very much resemble those of the prickly pear. Besides this nuisance, there are here a great variety of pests, different kinds of thorns (dubbeltjis) and grapplers, burrs, and other bearded grass seeds, which, whenever you move from the wagon, attach themselves so firmly to your clothes that you are obliged to change them. These nuisances appear to prove the fertility of the soil.

We killed two snakes to-day. One of the green tree-climbing snakes, five feet long, which the Bushmen inform me are very venomous, and that, when attacked, they spit their poisonous and blinding saliva into your eyes. A small kind of adder, with a shield on its nose, I also discovered by the peculiar noise it made as it inflated itself in rage, while I was stepping over it. It is about nine inches long, rather thick, marked black under the throat, and a broad patch on back of head and neck, followed by several succeeding trans-

verse stripes, gradually diminishing in size to about the middle of the body, and then continuing in spots.

We came to a stand here, owing to the doubts of our Bushman guide whether our wagons could travel through the thick elephant jungle ahead. He had not been here since childhood, and wished us to see for ourselves first; so we sent the Damaras forward for the purpose.

We at last succeeded in shooting one of the paradise finches; but it has evidently nearly changed its plumage, for the two long tail-feathers were gone; on the back, above the short tail-feathers, it has two of those broad, rudder-like, vertical feathers, instead of one, as I supposed. These it can erect at will. It is something like those we shot at Sleepy Hollow, but the breast is of a very rich brown; the bill and feet black; the throat black, and belly yellow; neck ditto; crown of head black; length of body to end of true tail, six inches; two long tail-feathers, thirteen inches, and two broad ones, four and a half inches, and, including the tails attached, seven and a quarter inches. The two latter are placed between the two long ones, which are also vertically placed, and strongly indented down the inside and raised on the outside, giving it a very massive appearance. The feathers are further barred transversely, like watered silk. It has also two thread-like filaments, like twisted silk, under the rudder-like feathers.

18*th March.*—We trekked about east, by a small footpath, until we entered a valley studded thickly with thorn trees, and kept along it for five miles, when we fell in with a larger path, which the Bushmen inform me leads straight from Koobie, viâ Mahalaapye to Quèbè. This we followed five miles farther, and, having outspanned opposite a small conical hill, sent the cattle in search of water to the north, where, the Bushmen said, vleys are plentiful; and the grass being here green, and birds abundant, I have no doubt they will find water.

My brother fired at one of a pair of ostriches; the cock was very tame, and every now and then turned to conceal himself by lying down in the grass. At the same instant I saw a black and white eagle fly from the ground, and a number of kites hovering over. I went to see what it had caught, and found it had killed a young ostrich, by inserting its beak alongside the breast and piercing the heart, leaving a very small wound visible. I shot a peculiar little butcher-bird of a cinereous colour; rich brown on back; from cheek, and round the eyes, and passing round the forehead, black; upper tail-feathers black, tipped with white; under tail-feathers white half way up from the roots, rest black; breast, belly, and throat, dull white or yellow, with slight tinge of purple; eyes black.

Next morning we trekked at sunrise through thorny bushes, and consequently made slow progress. We had to chop down trees to clear the road, and sent some of the people forward to seek an exit from the bush. Passed a troop of fifteen or twenty camels, a pretty sight, in combination with four travelling wagons, horses, and people, on the plain. Got the female of the red-headed woodpecker. It is smaller, and marked with black on the crown; there are three kinds. Also one of the white-headed chatterers. The cheeks being marked with black indicates the sex to be female; the male has the head and neck quite white. Also a red shrike; a few white speckles on the rump indicate the sex to be female. At night we heard that a span of oxen were missing. Two Damaras went off after them and did not return all night; probably the cattle have run off with a herd of buffaloes. The bush is so dreadfully dense that we shall be brought to a stand till we find a road.

Next day my brother and I rode ahead to the vley, keeping south of the Quèbè hills; the wagons arrived about noon. Harry and some Bushmen were sent to the lake to apprise

the chief of our being in his neighbourhood, and another Bushman went back to fetch the tusks of a bull-elephant left at Sleepy Hollow, which they found, together with those of a cow I had wounded. This makes five elephants already found out of seven fired at at Sleepy Hollow.

There are few birds that actually drink water, although there are many hawks and other birds of prey generally found at the pools and wells, which they visit for the purpose of preying on the smaller birds; Namaqua partridges and turtle-doves are nearly the only regular visitors. The birds of this country are more numerous than we should at first imagine, and it is only by comparison that the difference of species is discovered, as many look so much alike. They have not here the beautiful birds of Natal and the Knysna, but a few have very brilliant plumage. The female of the crinoline, or widah finch, is of a grey colour. Again one of my best dogs has died, and another is sick; I cannot make out what it can be that kills them. The Bushmen on seeing it at once exclaim: "You have been into the 'khow!'" On asking what that was, they inform me that it is a plant that grows in the parts that we come from, bears an edible red-coloured fruit, two inches long, and that this is poisonous to cattle if they eat it, and also to dogs if they come in contact with it, or jump over the bush. I asked a second Bushman, from another part, about this incredible story, and he confirms it. There may be something in it. We lost one ox from poison of some sort; one horse was nearly dying, and several dogs are dead of inflamed lungs. They say the Bushmen can keep no dogs, and that when they have soaked a string in the juice of this fruit and tied it on the legs of the dogs, they may travel in the khow-fields, the sand-hills to the north-west of Koobie, with impunity.

22nd March.—To-day I got the female of the crinoline, or widah finch. In the action it is very like the male, flying

very high for so small a bird, and evidently with some difficulty; in descending again, they seem to let themselves fall head foremost, suddenly checking their descent at intervals. The hen is a dark brownish-grey, very much speckled all over, the middle of the feathers being dark brown or faded, and a black feather on the centre of each wing; crown of the head black, parted in the middle by a pale stripe, which recurves from the back of the head on either side, and passes over the eyes to the base of the bill; breast dull white, speckled, and having a few rufous feathers visible; belly white; tail brown.

My brother brought some fruit from the Quèbè hills very like a lime in appearance, of a pleasant acid taste, and thick rind like a lime; large nut inside with three or four eyes; heart-like leaf. Elephants are very fond of it, and so are all the native tribes, who make a strong intoxicating drink of it by fermenting it. The wood is very useful, as combining softness with closeness of grain and durability. The natives make wooden vessels, troughs, &c., out of it. The trunk of the tree is generally several feet thick, and straight for about twenty or thirty feet, when it branches out into a beautiful crown. I think the Bechuanas call it mopura, the Bushmen taa, and the Ovambo onganga.

23rd March.—Messengers arrived from the lake. It appears that the chief sent to look for us at Koobie and invite us to the town, but we were gone: hearing from my messenger that we were at Quèbè, he sent hither at once, his messages overflowing with kindness. Of course all that we had previously heard about the war with Chapo is false. He says he cannot bear to see his friends staying so far in the bush: we must come; the country belongs to us, and so on. He sends to beg coffee, sugar, tea, flour, &c.

The quails here are of two different kinds, large and small, and different to those in the colony. The smaller kind

measures ten inches from tip to tip, and six inches from point of beak to point of tail; bill and feet pale bluish-grey; toes three; eyes yellow, breast rich brown down the middle, bounded on either side with a row of whitish feathers slightly fringed with black, and painted with large black spots in their centre; throat and belly yellowish-white; side of neck, whitish, feathers fringed with black, and black spot in the middle; the crown and back of head parted with a row of rich brown, black, and white feathers, in which the latter preponderates in the middle. On either side of this white stripe run three longitudinal rows of brown, white, and black feathers, in which the former preponderates; whiskers covering the ears; the feathers of the back reddish chestnut-brown, fringed with grey, and barred transversely with black marks; the brown is again bounded with a longitudinal stripe of black on either side; quill feathers grey, edged on outside with white; greater coverts bright reddish-brown, barred with black, and edged with white near the base, but otherwise whitish feathers with large patches of black and rich reddish-brown; shoulders grey, with a tinge of brown. This is the male. The female is known by the absence of brown on the breast, and is of a paler colour. I shot some river doves; the back and first half of wings are dark ash-colour, tipped and sometimes barred with white; the quill feathers reddish-brown, outer edges black; greater wing-coverts dark grey tipped with white, and a spot of glossy green on the two inner ones; rump grey, barred across with black; tail dark grey tipped with black, and the underneath feathers edged with white on the outside; belly pale ash-colour; bill black; eyes ditto; feet dark dull purple.

24*th March*.—Walked over the hills, which here crop out of the plain. They are a kind of granite or greenstone, a dark, speckled, sonorous rock, the same which Dr. Livingstone calls basalt at Bamañwato. There are also quartz and sand-

stone around the base. I sent back the messengers with instructions to tell the chief that I could not come to the lake, but intended striking the Botletlie some 15 miles below —intimating at the same time my determination not to trade until the property stolen from me had been restored, and assurances given for the security of my goods in future. Meanwhile we pursued our way in a north-east direction.

At the Quèbè hills water boils 206 $\frac{5}{10}$°; therm. 84°.

On the 29th I rode ahead after sunrise, and reached the Botletlie river at 9 o'clock. The wagons came up at 3 in the afternoon, having struck the river a few miles farther to the westward at Lechulatèbe's old place, and I did not find them until evening. In the meantime a Makoba chief had entertained me with three boiled fishes and some goat's milk, which were very welcome, though eaten without bread or salt. A Makoba messenger to another part passed me: he was very much excited, and was holding forth to the inhabitants of the village against the Baroa, some of whom had made free with his sheep and goats, taking two of them. This they say they will not stand; they will rather fly to Sekelètu than submit longer to this system of robbery. It has always been permitted the Baroas, when sent on an errand anywhere, to empty all the fishing-nets and creels which they pass on their road, and the Makobas are everywhere supposed to supply, by way of a tax, food to people sent by the chief; but since the Makobas have commenced to collect sheep and goats, the Baroa think they are entitled to take them also; but this will drive the Makobas out of their territory.

The medlars, which grow here on the banks of the river, and of which we found abundance at the hills, are very similar to our own, though not so sweet. We did not know the proper way to eat them until the Bushmen advised us to stew them. This we did, stirring them into a porridge, and,

with the addition of a little sugar and some cream, they made an excellent desert. The mosentsila is another excellent fruit, as also the wild loquat (*motsuri*). The mokuchoñ is one of the finest trees in the land, and the fruit, also a medlar, when dried becomes, excepting the seeds, one crystalline mass of sugar. I found a miniature kind of purple fig growing on a bush; it is sweet, but the natives do not eat it.

31*st March.*—The chief visits us, pretends to be very penitent for his past offences, and persuades us to go to his town with our wagon. I promised to go there to-morrow, only because I want to photograph him. We learn from Lechulatèbe that, according to the latest news from the Makololo, Sekelètu is so ill of a disease, which they say is common on the Sheshèke, and which eats away the toes and fingers—probably leprosy—that he is obliged to be carried about on a litter.

1*st April.*—We left the camp at 11 o'clock, and travelled with much greater comfort on the open grassy banks of the Botletlie river than we had done for a long time in the bush. The distance to the town proved 13½ miles, per trochameter: during the half of this distance we travelled alongside of corn-fields and gardens, and it was a pleasing sight to see the busy groups of people plucking, or carrying on their heads, loads of the *Holcus sorghum*, and chewing, or, as they say, drinking, the sweet reeds (*Holcus sacharatus*), their occupation all day. Look when you will, you see men, women, and children, tearing away with their teeth at a long cane, which they hold in their right hand, while the left arm clasps a bundle of the same against the side. Water-melons, pumpkins, calabashes, beans, maize, and sorghum, are abundant this year, and the gardens are everywhere surrounded by huts, where the servants sleep to keep away the game during the night, the birds by day, and wherein to occupy themselves in basket-making, &c. We were stopped by one

party of women on the road, who forced water-melons, beans, maize, and corn upon us, for a trifle of beads. They have abundance to spare this year, and the chief has given them permission to sell us food, without which permission they dare not, or we might have been already supplied by the Makobas.

It was an interesting study to observe the number of women striving to beat one another down, and struggling with might and main, with baskets high over the heads, and vying with each other for precedence, bestowing the most honeyed compliments and flattering wiles upon the purchaser, accompanied by such epithets as sweetheart (neatsi), &c. The industry of the people here is a pleasing contrast to what one sees among the Hottentots in Damara Land.

The chief yesterday changed our "guard," leaving only one spy in place of the three we had before, but his vigilance makes up for the former number. Besides subjecting us to this nuisance, under the plea of guides, assistants, &c., he is unmannerly enough to take away our servants on the sly to pump them; there is nothing that one can say or do but he must know of it. In trading he is excessively mean, and takes every little advantage. I hear his intention is to be very good for the future. He says he will take my advice, which is good, and he has severely punished the Makoba who stole the adze. He has sent us water-melons, canes, and porridge, which indeed is saying a great deal for him.

I observe that the people here are altering their old plan of planting in the sand on the banks, and are now planting in ground which will be under water in August. Those who have done so have an abundant crop, others will get little or nothing. The great corn-fields, however, are on the north side of the river, and along the south bank of the lake, where for many miles there is one continuous garden.

I never knew until now that Bechuanas adopt any permanent external mode of exhibiting their grief by mourning,

but Mahutu, the chief's uncle, has died since I was here last, and one of his young wives, his brother's daughter, who used to be always very gaily decorated with beads and ornaments of the liveliest colours, I found in such a wretched condition that she looked like a poor Bushwoman, though always considered one of the belles here. She had not an ornament of any kind on her, and seems to have greatly neglected herself. I inquired the cause of the change, and was told her husband had died, and she had buried all her ornaments with him, and put on mourning.

I told the chief I was rather in a hurry, and wished to buy corn: should be happy to supply him with anything I could spare. He said the women would overwhelm us next day, and after we had done with their affairs he would be prepared to transact business of more importance; signifying that corn, beans, melons, &c., are things that women deal in, but men and soldiers like to talk about fire-arms, horses, &c. Next day, at an early hour, we were indeed overwhelmed with the noise of squabbling men and women pushing each other, crowding and holding their dish of corn or maize overhead in one hand, each striving to the utmost for priority. The trader becomes bewildered. Sometimes he gets his corn very cheap, but more often horribly cheated. Alternately pinched and pulled about, abused and flattered, he is at length in such an endless perplexity that he would fain fly. At length the appearance of the chief and his retinue in the distance is the signal for the crowd to disperse, and he finds relief.

The natives say that they have killed a *Namani-tona-Tlou* this year, which literally means a great bull-elephant calf, but in this present case signifies a glorious harvest. The sugar-leaves (*H. sacharatus*) are plentiful, and pleasant "drinking" (chewing), but this year are rather diseased by an insect or grub which penetrates the canes, discolours it

red, and rots the inside. Pumpkins and water-melons, beans and maize, are also plentiful. Of all the seeds I gave them I can only find that they have succeeded with the large sweet pumpkin and some beans. Our various gourds (pumpkins, &c.) soon deteriorate when grown near those of the natives, and so does their best corn, the *Holcus sorghum*, when grown near the sugar-canes. This, I believe, is owing to the inoculation of bees and other insects carrying the pollen about from flower to flower.

We met here a personage I had often wished to see, a native conjurer. Report had long made us familiar with the marvellous performances of this man, but we were glad of an opportunity of having ocular demonstration. This person was a remarkably fine specimen of a Bayèyè (Makoba, or boatman), and by the careful manner in which his toilet was made and his body anointed, he evidently had some pretensions among his countrymen to being a dandy. He had no ears; but, with a smiling and pleasant expression of countenance, he possessed all the robust proportions, activity, and muscular development of his tribe. As he could not perform any of his prodigies during the daylight, we invited him for the evening, when he punctually appeared. He was evidently under some apprehensions that his secrets were known and could be exposed by the white man; but we gave him a fair chance, though scrutinizing his actions during his performance very severely, and we must do him the justice to say that his tricks, which were all sleight-of-hand, were, for an ignorant savage, remarkably clever, and equal to what I have seen performed by celebrated wizards. One of his tricks was burning a bunch of beads tied in a bundle of grass in the midst of our little circle, and making them appear again uninjured; also pounding certain things to pieces and restoring them to their shapes. All his tricks are performed after invoking Morimo (God) by holding his hands up in a suppli-

cating attitude. He attributes everything to his influence with God, and is quite stubborn on that point. His ears, he told us, also were with God, but we shortly after learnt a very different story, which was that the chief had taken them off, in order to try and cure him of an unconquerable love of displaying his ingenuity upon sundry little properties of the chief, which, by his sleight-of-hand, were conveyed from the chief's residence to his own. The Makobas are great and expert thieves, and it is no doubt owing to a knowledge of sleight-of-hand that their expertness is to be attributed. Our friend the wizard was next day caught with some beads secreted about his dress. He was not seen taking them or concealing them, but the beads mysteriously disappeared while he was standing near, so we instituted a compulsory examination of his person, and found them.

After these performances for our amusement and his profit, our friend invited us to the town to see some of his witch-doctoring. They give him credit here for being a very clever surgeon, cutting into the belly, drawing out the intestines, removing the disease, and replacing all again immediately as if nothing had been done to it; and many other remarkable things of a like kind. On this occasion I was not able to go to the meeting, but the rest of our party went, and it appears that our friend, after scarifying the seat of the disease of the sick man, sucked at the wound, and then, being supposed to have inhaled the disease, he went off into convulsions, from which it required all the energies of the bystanders to relieve him; after this he extracted from his mouth, on the point of a knife, a lump of some substance which was supposed to be the disease. A great many people are generally present on these occasions, squatting around in a circle, singing some wild song, and keeping time by clapping their hands at short intervals, to cheer the wonders performed by the operator. Some animal must also be slaughtered, an ox or

a sheep, according to the means of the sick man, and feasting and rejoicing terminates the evening. I think the performance of this man, on the whole, to be very clever, considering that he is so unencumbered with dress or other conveniences for concealment.

Sunday, 13th April, 1862.—Some messengers arrive from the town. The chief is very sorry that I am taking my goods away with me. He says I ought to leave all my ammunition, at least, with him until my return, when he will buy it. He also wishes to buy a horse, and sends a tusk for beads, which I civilly declined. From all that I hear, I expect to find the country eastward, which I had the honour of opening up a few years ago, very much changed in every respect. The fountains and wells are said to be dried up, and most of my old friends, the Makalaka chief Kaesa and others, have been murdered, either by the Bamañwato or by Moselikatze's people. This is owing chiefly to the war between Machin and Sekomi, the former of whom is said to have obtained the aid of the Trans-Vaal Boers. The Makololo are at present quiet: the death of their chief Sekelètu, from leprosy, is just reported.

The natives here call me Pelu-tèlèlè, or long heart—an expression which they frequently make use of when they see me busy with my photography. In so far as I can understand, it seems to mean indefatigable, persevering, searching, which is certainly flattering.

The Batawana in making their karosses or mantles cut them so that the mantle afterwards shall have the appearance of the skin of an animal, the heads and tails, &c., being placed in their respective positions.

16th April.—My brother shot here a young bull-elephant, a very small one, the tusks 6 lbs. or 7 lbs. weight. He wounded two cows. I photographed the dead elephant, which fortunately fell in a good position to show the formation of the

limbs and size of the ears, so different from the Asiatic species. Next day we trekked as far as Mosetla trees (four and a half miles) and again nearly four miles, when we stuck. The road, where it turns away from the river at Khosi, is so overgrown that we can hardly find it. We have therefore to cut our way through the bush, and it took us a whole day to accomplish half a mile, breaking the wagons, and outspanning, in the greatest possible confusion, long after dark.

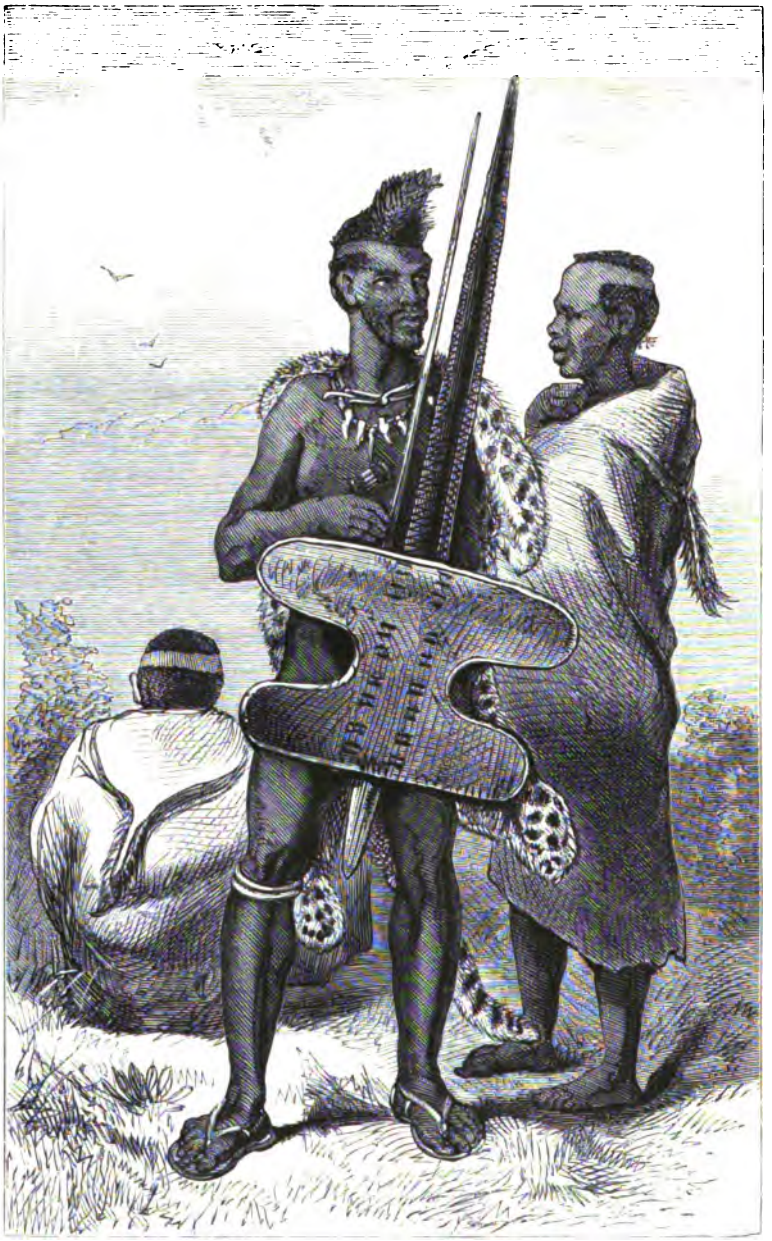
Baines was taken very ill of fever, and Anthony has also been seized with the same complaint. I shot a beautiful eagle (petèkè), which preys on steinboks and other small antelopes, guinea-fowls, pheasants, hares, &c.

The mosetla, which abounds on the banks of the river Botletlie, is a most magnificent tree, ranking in size next the anna-boom of Damara Land, which it somewhat resembles. It is the finest of the acacias—the seed-pods and leaves are larger. The elephant, apparently, is very fond of the younger branches, which, as far as they can be reached by an elephant, about twenty-five feet, are everywhere twisted off. The mokuchoñ trees just now are in full bearing, but the fruit is green, and will be ripe at the close of the winter; it is an evergreen. The female alone bears fruit, but only when it grows near the male. Many of the old motchuerie trees just here are completely choked to death with the profusion of vines and creepers and parasites, weighing their lofty crowns to the earth; some of them, since I was last here, are no more, but their white ashes measure their length and form on the ground where they fell, and were burned by the annual fires. The motsouri, or loquat, is as dark and umbrageous as ever, and the moana as bare as it was in winter. The melo and other medlars have yielded their fruit and retire into insignificant nakedness, while the moka, musha (bastard camel-thorn), mozotlo (mokala), the mosentsila, the mopora, moporotla,

and mopura, and a variety of other trees, afford a grateful shade to the traveller. The mokhotzi, with its long, sharp, round, grooved leaves, impedes his way as usual. Other magnificent trees, of many kinds and great age, adorn the banks of the river; their dark shades being here and there relieved by a tall conical hill or nest of the white ant (termites), fifteen or twenty feet high. These hills are sometimes capped with dense creeping plants, forming an umbrella-like shade upon it; at other times these nests are run up around the stem of some giant tree to a great height, being at once a temporary support and a certain destruction within. The treacherous pitfalls lurk concealed between the trees. The Botletlie is marked by the same appearance on the opposite side, running sometimes between white cliffs, at other times between sloping banks; with its reedy margin, its lotus leaves and flowers, on which run many stilt-legs; its ravenous crocodiles; croaking, screeching, and clamorous flocks of birds: here "the white-winged plover wings his sounding flight," and the cormorant sits on some log with exemplary patience, drying his outspread wings in the wind. The fish-eagle, on the loftiest tree, eyes askant the finny tribes, and darting down with a sounding swoop, rises again triumphant in the air bearing his prey in his talons, and with a loud voice sings, "Ow-ow-owlie," while the white limestone cliffs echo from beneath, "owlie."

21*st April*.—Baines is still very bad, and we are only getting into a more hopeless predicament, as more and more of the people are getting ill. We have to-day travelled about four miles farther, to a more suitable place for sick men. Here we will remain until we see a decided change for the better.

Some one, I forget who, has said that the only thing a Bechuana could make square was a game pit. Now, the game pits here are exclusively the work of Makobas and



A BECHUANA WARRIOR.

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Bushmen, as it is in some other parts of the Bakalihari, but the Bechuanas are not so ignorant of the square, as any one may judge for themselves by examining the karosses which they make. Every skin is cut into an oblong square, the smaller patches often into exact squares, and the smallest circular, but the latter owing only to the convenience of sewing. The Batawana work beads very tastefully, and often decorate their aprons with squares of variegated beads. Their beer-pots they also paint very tastefully, like chequers, all round, and I have seen very fine square baskets also made by them.

The sickness in our camp still continues. The natives say that this year and last the fever has been unusually bad, carrying off most of their old men, and that only the youngsters are left. The river here has a much larger body of water, and it is running very fast. The weather has been unusually dry; no rain has fallen of any consequence for two months past.

On the 25th messengers came from Lechulatèbe, nominally to see how we were, but actually to beg a number of things. Report fever very bad at the town. Our sick people improving. Water boils 206$\frac{9}{10}$°; 2825 ft. app.; therm. 80°.

Knowing that there are good leeches near the junction of the Tamalukan river, I sent to look for some as specimens; they are very good ones. I sat up till past midnight and took two stars, and found the latitude 20° 9″ south.

28th April.—Sent two more Damaras with letters to my brother for Cape Town. We span in, after breakfast, as Edward and Baines are better, and move on. Make only four miles to the junction of the Tamalukan. The Makoba name for this river is Zithanie: the Baroas, or Batawana, call it Noka-ea-Lingalo. We outspan here to wait for the other wagon. Next day a Bushwoman belonging to one of our Damaras was taken ill, and about to be confined. Knowing

that they think nothing of these matters, and would come on immediately after the affair was over, we never thought of inquiring whether anybody had stopped with her; but towards evening I heard that she had been left alone to get on the best way she could, so sent people to see after her. We trek eight miles in the morning. I shot some six or seven pelicans, two cormorants, three stilt-legs, and a muscovy. I went over into the north-west angle of the confluence to look for a 'ngurungo, a beautifully-spotted antelope, of which I shot one in 1854, but had no success. To-day I shot one of the little owlets which I had a long chase after once before. It is only six to seven inches long. They utter a loud whistling noise when chasing each other, and are more active than owls generally; flight undulating.

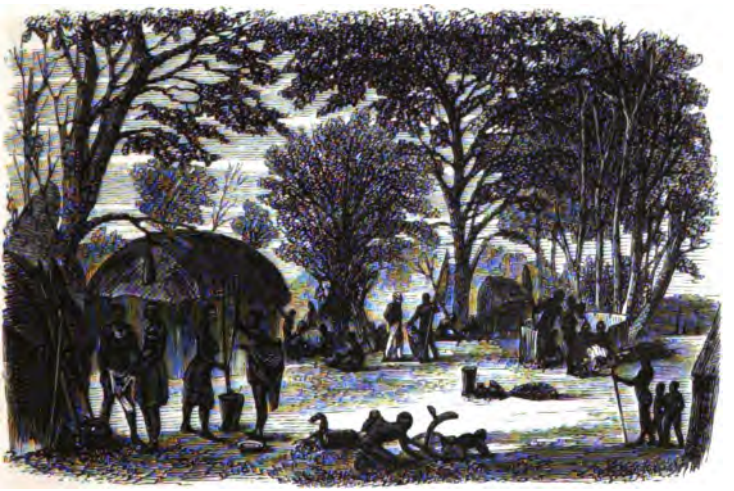
30*th April.*—Trekked 12 miles to Makato's village, passing the site of his old residence about half way. Met some of Makato's people going to fetch the flesh of a giraffe which had fallen into a gravel pit. Makato is one of the most successful and persevering hunters by pitfalls in this country. Wherever he camps for a little while the neighbourhood for 300 or 400 yards round is plentifully strewn with horns, and the *altar* tree is hung with innumerable horns, tails, and other trophies with which to propitiate their "Wodin."

Being in advance of the wagon, I halted at a village belonging to Makato. The people offered me some boiled lebèlèbèle (millet), which made me ill. It is very good when boiled, and is used by the Batawana in the cure of dysentery; it is very free from acidity. They say it makes good beer. The grain is almost as small as sago.

The Makobas are very fond of working in wood; they are constantly making bowls and dishes, funnels, &c. At every village there is generally a small model canoe. I saw a very nice one here made out of the wood of the motsèbe, which, as the tree is poisonous, they do not keep any food in, but

prepare such things as the mokhoè-le-kháelé, a fine red tan, the bark of a mimosa root found here.

1*st May.*—We repaired damages to wagon. I also delay to photograph. The only varnish which I have left spoils all my photographs, but I have hopes of being able to wash it off again with spirits of wine. Damaras return from my brother. I transported all my materials across the river, to take a photograph of the village and the people at work. There was a fine display of tools, implements, &c., hoes, spades, hammers,



INSIDE OF MAKATO'S VILLAGE, BOTLETLIE RIVER: IMPLEMENTS, ETC.

adzes, hatchets, mortars, &c.: and of their employments—cooking, one pot placed over another, stamping corn, dressing and tanning hides, mending their nets, making a dish; women threading beads, &c.

Next day we trekked eight miles in the forenoon, and saw a few fresh spoors of buffaloes. On the whole we are very unfortunate; just when all are getting well again, so that one might without anxiety leave the wagons, the rains drive away all the game into the desert. We had some very

delicate fish for breakfast. The barbel is not so nice, as it feeds in the mud. The carp is very good, and so is a small variety of pike. In the afternoon trek seven miles, the road being pretty good all day. The country opposite is called Khàilè. The grass has sprung up wonderfully quick since the last rain, and is quite green. All this year's seeds seem to have germinated. The trees are budding forth again, but before they can yield flower or fruit the frost will, no doubt, kill them. The Makoba women are dressing the ground preparatory to the coming flood, which will inundate the gardens, and after it has receded they will plant their seeds.

Some Makobas came to me from Makato's. I got from them a turtle, or water-tortoise. The shell of the belly is divided into two parts: the front part is movable (on a strong cartilaginous substance) at the will of the reptile; he can shut himself up and open his door as he pleases. The muscles which regulate this machinery must be very strong, as a powerful man could not force it open with an axe previously inserted. A finger inadvertently thrust in would probably be crushed to pieces. This turtle differs from those generally found in pools, and the one we got to-day is only ten inches long, four thick, and five and a half broad, but they are said to attain sometimes double that size.

On the 4th Baines and I crossed the river, and had a long walk to Pelani's, at the east end of a large island two or three miles long. We did not meet with buffaloes, although their spoor was plentiful. We saw a troop of koodoos, and fired at and wounded some on an island. We also saw several lèchè, of which I shot one.

At Pelani's old village (Kala Mahite) we found the wagons encamped. We saw here some palm trees (doorn palm); the leaves on the larger trees are recurved backward; when young they are perfectly straight. The fruit hangs in

large grape-like clusters, the size of an orange. This morning we killed a large snake, nine or ten feet long, and very active. When first alarmed by our dogs it stood erect to the height of five feet, and, making several successive bounds, ascended a tree. It was as thick as a strong man's wrist, and evidently a tree-climber. We have killed a great many snakes this last few months—cobras, puff-adders, green tree-climbers, &c. To-day the Bushmen offered us the skin of a python seventeen feet long.

5th May.—As we were strongly recommended to get out of the neighbourhood of the pitfalls, we proceeded a few miles to Dorokarra. Here we learnt that four of my brother's oxen had fallen into game pits. Saw many fresh spoors of buffaloes, and killed a large puff-adder, and was astonished at its activity when excited. Slothful as this reptile looks, I only discovered to-day how active it really is, snapping sideways, and fairly jumping several feet. I observed a kind of short reed-like grass growing on the margin of the river. It is covered with small downy prickles, like those on the prickly pear, and imparts a very irritating sensation when it attaches itself to the body. There is a large kind of owl in this country, of very beautiful plumage: raw sienna and grey, with white spots edged with dark grey, and dark grey spots; black eyes. It is a kind of barn-owl. We found six young ones, measuring 2 ft. 8 in. across the wings. In the afternoon travelled eight and a half miles to Tala's village. Saw two very large crocodiles. Shot a beautiful crane (demozelle), and two others—slate-blue, white heads, and long black wing-plumes sweeping the ground, while the tail is very short; it has wart-like excrescences on the cheeks: also a fish-eagle, a hawk, an owl, &c. Saw three large snakes, ten to twelve feet long, and procured some fish.

6th May.—We travelled about three miles, and struck the river at Khamma's ford. There I waited for the wagons, and

having found Bushmen, and obtained all the information necessary as to crossing the river, we accomplished it successfully. The bottom is a hard, flinty sandstone, worn into a very worm-eaten appearance by the action of the water; it is full of cavities, detached pieces having a loud metallic sound. We travelled about three miles farther down the river and slept near it. Next day we journeyed about five miles, and, seeing plenty of buffalo spoor, we made a camp in order to try and get a buffalo hide to make riems. We saw three kinds of eagle, among which was the golden eagle. We secured a female of the pètèkè. The brown feathers of her back and tail are not so rich as in the male, being a pale, dull, and dusty brown. I noticed here two varieties of vulture which I have not yet procured—a jet black one and a large brown one. Guinea-fowls are very plentiful. Walking ahead, we killed a brace with a stick from the trees where the dogs had chased them. We might have killed many, but we could find only one little piece of stick. After they have flown once they are winded, and can be easily secured with the aid of dogs.

Since we have had the last rains everything is green and fresh, and all the plants that had already flowered and faded are again in blossom. How this circumstance will affect the climate or the verdure I cannot say. One would suppose, however, that an atmosphere already surcharged with a superabundance of noxious vapours of decomposing vegetation will be rendered still more unbearable, and that the fever may be expected to be very bad after the next drying up of the river. I do not remember having ever noticed this phenomenon before. The usual rains came early and ceased early; the country became very dry, but just at the setting in of the winter a heavy farewell shower cooled the atmosphere, made the grass spring, the trees to bud and blossom, and very probably dispelled the fever, for since the rain we have had no more of it.

I found to-day a very peculiar, small, rodent animal, which Baines sketched. It has a pink skin, and rich, dark brownish-grey fur, with a large white spot on crown of head, very formidable teeth for eating roots, and in its actions resembles a guinea-pig or hedgehog. It is about three and a half inches long, with very blunt face, and the large teeth occupying nearly the whole front. A pretty yellow mouse is very plentiful. Many of the young ones are found drowned after a shower.

We found in a bird's nest a family of small animals something between the squirrel and the lemur, probably the dormouse. It sits erect like a monkey or a lemur, has large ears, a long, ruffled, bushy tail, and is covered with a soft and delicate fur. They soon become tame, and eat from the hand. Otters of two kinds are very plentiful in this river; the colour of the larger is ashy-grey, with white. The fur of the smaller, however, is the prettiest, being of a rich, dark velvety brown, approaching black, with a few snow-white spots under the throat and breast. When fishing they may easily be mistaken for large snakes. I have often observed and admired their activity on those occasions. The natives of the lake had always a very strong prejudice against the skin of this animal, and would not handle it. I have at length succeeded in persuading some of them to make karosses of them, and very pretty they are. Mr. Layard does not know this otter, and believes it to be new to science.

I rode out in search of buffaloes, and, soon falling in with a troop of about 200, I fired six shots, at the distance of sixty yards, without hitting them. This was with a small fowling-piece, my own gun being a long way behind. I got my gun at length, and in three shots wounded two buffaloes; but, being greedy, and desirous of shooting more, went on and got nothing. After a little rest I returned to spoor the nearest of the wounded ones, which we did till sunset, without

success. A large buffalo-calf had fallen to the share of the dogs early in the day, and this was all we got, though I had wounded another in the evening, and we had seen 200 or more buffaloes, some of which came past the wagons pursued by the dogs, giving the people there also a chance of firing.

10*th May*.—We left Dzouga at daylight, and, passing Magalie's, outspanned. The Botletlie here turns to the south. The north bank has an abrupt white cliffy ascent, forty feet high, with large camel-thorns on it. The opposite bank is a low and open plain a quarter of a mile broad, bounded by a forest. Troops of lèchè (luchees), varying from 50 to 100, their warm colours heightened by the sinking sun, contrasted with the green carpet as they grazed peacefully on within 300 yards of me.

After dusk I heard a troop of buffaloes butting each other, but refrained from molesting them for fear of driving away any elephants that might be in the neighbourhood. The buffaloes and rhinoceroses quarrelled all night. Whenever the rhinoceros heard the buffalo, he puffed and snorted and dashed at everything. At midnight elephants came, but from a different quarter to where they generally come from. I let them go to the water. Three or four large bulls passed on fearlessly, but the females stopped on my spoor, now eight hours old, and smelt and examined it. At length, seeing that the males were all right, they also ventured down, and then they drank and gamboled and bathed themselves for fully half an hour, during which time I sat patiently waiting for them, having stalked to within fifteen paces of where they had come down. At length the males left the water, and proceeded straight to where the females had examined the spoor, and the largest one followed it up step by step, smelling it out with his trunk. As my situation was rather exposed, he saw me, and threw his ears and trunk aloft: I fired, when he turned and fled, and the rest with him. Amongst them

I also fired a shot; a groan responded, and they dashed away, breaking down the trees before them. A troop of 200 buffaloes, besides smaller parties, had been drinking, but I would not fire at them, believing the elephants were near, and I was right. It was a striking spectacle that ensued—buffalo following buffalo in a long unbroken line; when they come to the steep bank they run down full trot and dash into the water, where they stand side by side, up to their flanks, to drink. The long file of elephants, as they approached, reminded me of a grand Indian military procession. Daylight at length drawing near, all hopes of more elephants vanished. I killed a solitary buffalo-bull that had ventured within thirty yards of where I sat. This I did with two shots.

I had wounded a fine male lèchè, and was following him, when the Makoba who carried my spare gun walked just inside the belt of bushes up the bank, in order to keep out of sight of our game. Two buffaloes that were lying within a few yards of where we passed charged the Makoba with such perseverance that, had he not thrown my gun, and himself also, into a thick bush, he would very likely have been impaled on the horns of one or other of them. One of the elephants which I had wounded I had hit with a poisoned bullet, and I followed five or six miles on the spoor without success. Lions were roaming about all night round the skaarm, but they did not venture down.

A plant, called by the natives tantanyani, very like if not the same as that called in the colony kat-doorn, is a fine-leaved, thorny bush, bearing bright red berries. It is something like asparagus (?) The roots of this bush are heated in the hot ashes for a few seconds, and then twisted over a pot containing the dried paste of poisoned grubs, and the juice squeezed out for the purpose of softening or diluting the paste.

15*th May*.—Some Baroas arrived from the east by the path we have to go. They told us that there was no water in the desert. They have been everywhere in our way, and have probably been sent for that purpose, as they have no business there at other times. After leaving the river all the pits and fountains eastward belong to Sekomi. On the ridge, about fifty feet above the river, water boils 207 $\frac{1}{10}$°; therm. 70°. Next day, having learned that the springs east have dried up, and that a vley of rain-water a long way north-east has still a little water, we started for it, as if we can get one drink there it will serve us until we can strike my old Sebetoane route, somewhere about Zoutharra. The Baroas, although they swear there is no water, have still the flesh of a newly-killed rhinoceros, so that there must be water somewhere.

We travelled two miles to opposite the muru-mahutu, tree of legs, a motchuerie, which had been standing on ten very thick roots several feet out of the ground, the earth having no doubt been washed away beneath. We outspanned about two miles farther down to water the cattle, and, leaving the river, travelled in an old river-bed about north-east again four miles through dense elephant bush, lions' spoor being plentiful. Again outspanned late, and feared an attack from lions, but the noise and confusion of our camping no doubt kept them away; and, fortunately, the moon appearing an hour or two after insured us a little rest.

We travelled from the river through dense forests of mogonono and other bushes and trees for about five miles, and in what appears to be an old river-course, now nearly filled up with sand. At about 12 or 13 miles from the river, north-east, we came to a pit called Ghanna, which seems capable of yielding abundance of water if it were enlarged. A mile farther on we came to a vley full of camel spoors, and another mile brought us to a white limestone vley. At five

miles from the river the country opens out into an extensive plain, sometimes covered with low bushes and white ant-hills, in other places with grass only. This is the commencement of a tract called Lulupèpè, and contains, to the southward and eastward, many small springs in limestone beds, and abounds in large herds of small game, such as springboks, quaggas, gnus, pallahs, &c. It seems strange to find oneself on a plain, with an horizon distant some miles, and is rather a contrast to being cooped up, as we had been, between high trees and underwood, where one can scarce see above a few hundred yards from the camp.

We lost the road, and kept a little to the north-east, and, by a lucky accident, found a large vley with a little muddy water, barely sufficient for the cattle for once. We had also outspanned at another vley, where we also procured a little water for the trek-oxen. The country here is open, with grass and dwarf palms and young camel-thorns.

18*th May*.—I rode ahead to try and find the road, while the wagons steered another course. I saw a troop of giraffes, and shot a steinbok, which my Damara skinned with a sharp stone. An edged stone is not a bad substitute for a knife; indeed, as a proof how skilfully are these sometimes employed, I may mention that a Damara doctor does not scruple to open an artery with a sharp piece of flint for a lancet.

19*th May*.—I lost my best dog, Cæsar. He had seized a large puff-adder by the tail, and shook it. When the snake was released it darted at the dog's face, and, having fixed its fangs in his cheeks, stuck there like a bulldog until it was killed; the dog only survived ten minutes.

Mirage is a phenomenon of frequent occurrence here. To-day the thirsty dogs had a most ludicrous chase after the fancied water, which retreated farther and farther from them. Their eyes, like those of the men and cattle, smart and run

from the effects of the salt dust, which, being blown into their mouths, also increases their thirst.

This pan, of which we have not ascertained the name,* seems to be about eight miles from east to west, and to extend farther south, being probably an offshoot of the Ntwetwe. It is dotted all over with small islands or mounds, studded with groups of baobabs and very dense little forests of sorokaan (sterculia?) and various other plants. The effect of the mirage is very pretty, and the interest of the scene would no doubt be much enhanced when the pan is covered with water, as it is during the rainy season, when all the trees and plants would be green. The Ntwetwe pan, which lies about 90 or 100 miles east from hence, is from 15 to 20 miles broad, showing sometimes a clear horizon, without a vestige of verdure. I have often tried, for experiment's sake, to take a latitude on one of those pans, as I have no doubt the horizon would answer on an emergency, though it is just as likely the mirage may elevate it.

Next day I was fortunate in finding water about five miles on, and, having shot there a quagga, returned with the good news. I had so often been deceived by the mirage that to-day I was very nearly turning away from real water in the belief that it was again a delusion, nor did I find out my mistake until a wounded gnu led me to within a few yards of it. Game is plentiful at the water. I saw a few hundred gnus and springboks, and some quaggas, and I was fortunate in finding some Bushmen, with whom I established a good understanding, and learnt from them all that we wanted to know with reference to our position.

I employed all the spare hands to-day in collecting salt, which I yesterday observed in abundance on the pan. It is not found in such a thick crust (two and a half to three

* The Bushmen say there are several pans in this group, called respectively Gooinaw, Sabatho, and Karoo.

inches) as on the south side of the Botletlie river, in the salt-pans I discovered in 1852; but, like that, it is white as the driven snow. When at that time I took a quantity to make presents of to my lady acquaintances in the Trans-Vaal, it was pronounced to be the prettiest of all the curiosities I had collected. The pans on the south yield considerably more than any on the north, and we might have gathered several thousand tons if we could have transported it. The underlying mud of these pans is an unctuous, tenacious substance, very like cement, and a hard greenish honeycombed cavernulous or vermiculated sandstone (?) lies scattered at intervals. In some of the smaller outside pans a hard white crust of limestone has formed on the surface of the soil, which, having been broken by the hoofs of game, lies scattered around like flat pieces of ivory.

The springs on the north side of these pans have generally a bank of tufa, while those south of the Botletlie, when they have a distinct bank, have it on the south side. Some of the springs are no more than little pits dug out of the bottom of sloping limestone hollows or ponds, by the aid of a Bushman spade, a sharpened stick. Some of these ponds are broad and shallow, without any bank, and the surface is covered with loose shingle, while others are an irregular, or, more often, a rounded fissure in limestone tufa, with two or three successive layers or watermarks in the bank underneath. The pits or wells are generally filled with small rounded shingle, while one side is more generally a slope by which men and animals descend to the water. I do not think that the game has broken the banks down to that extent, but they would naturally approach the water on the most accessible side. When I first entered this country I found many of those ponds with an abrupt bank all round, and the water then, as was usual, nearly up to the top; but even in ten years a wonderful change has taken place; the water has gradually diminished,

owing no doubt to the general desiccation going on; and in places where formerly I could swim we have now to go underground for a supply of water. Whenever late and heavy rains fall the natives say that things are very much better, though never as it used to be of old. They say the country is dead.

Water boils here at 206$\frac{9}{10}$°; therm. 84°.

CHAPTER III.

Large Baobab Tree—Gnus—Encounter with Rhinoceros—Palm Trees—Morals and Manners of the Bushmen—Advance to the Zambesi—Tsagobye—The Ntwetwe Salt-pan—Roan Antelopes—Native Hunting-pits—Formation of the Ngami Basin—Bushmen—Tree-Lizards—Lion-killing.

21*ST MAY*, 1862.—We took the wagons a few miles in a north-east direction, with a dense narrow forest on one side and a pan on the other, to some water, where we made a camp, devoting the day to shooting, of which we made bad work, only bagging one springbok and a gnu, the Bushmen no doubt laughing at our ill success. Yesterday I was also unsuccessful, wounding, like to-day, several animals; and to-day I found two gnus, which had died during the night of their wounds, and had been partially devoured by beasts and birds of prey. I do not remember ever having such bad luck since my boyish days; but I have this excuse in my favour, that I have been firing with a gun minus a front sight, which was knocked off through the carelessness of one of my men.

The north bank of the salt-pan, which forms our present station, runs in a line about 6° south by compass, and a branch of it turns from the east end and extends north. We are now encamped at the north-east end of the forest along which we came, and which divides the pan from a large palm to the north of it. South of us stands a gigantic baobab tree, one limb of which has by some means been torn to the ground in spite of its long roots. The semi-diameter of the prostrate portion of the trunk measures twenty-seven feet, and that

portion standing measures 101 feet in circumference! The prostrate log has been hollowed out by some means or other, and the wooden caves are now full of bats, owls (barn-owl), and wild cats. The Bushmen here call all this country of pans and plains, the Karoo.

The fire-smoke at Chapo's is to-day visible about SW.S., and also at the large vley, 20 miles this side the river. The Bushmen point—60 miles to Kamma-Kamma; 90 miles to Gdam Kerril; 100 miles to Zoutharra.

This country, with all its pans, has the appearance of having been a lake of immense size, the supply of water which filled it in former days having no doubt been stopped far away to the north of Lebèbè's by some volcanic action, which has sent the water formerly coming hither in another direction. Dr. Livingstone thinks the Victoria Falls have drained it. Is it not rather more probable that some gradual pressure from within has been slowly at work, which would account for the general desiccation of the country? Within the lifetime of some of the Lake people and Makobas the Ngami has gradually receded a mile or more all round, and within the knowledge of white men still living fountains have everywhere been drying up. I have had abundant opportunity of noticing the same thing going on gradually during the last ten years. The natives coming from Lebèbè also insist that one branch of the Teougé (or Okavango) diverges towards the west coast, just in the same manner as the Tugela is said to diverge from the Orange river.

Some of my companions and our people have been suffering from time to time from attacks of fever ever since we left Koobie. It is rather late now for so much of it. Two Mañwatos have just passed on their road to Sekomi's from Sekelètu's; they are the survivors of four sent on an embassy by Sekomi a few months ago, two having died of fever.

The water is very salt here, and produces diarrhœa. We

would move to a vley on the east side of the plains, but there must evidently be a great scarcity of wood, as the Bushmen carry it from hence. We boiled a large quantity of salt for the purpose of purifying it. A sufficient quantity of water to cover the salt is gradually boiled away, and the lime, &c., is deposited as sediment in a crust at the bottom of the pot. A puff-adder was killed, 4 ft. 4 in. long and 9 in. in circumference; it was exceedingly fat. It may be observed that the nictitating film, or perhaps the true covering over the albumen of the puff-adder's eye, is shed with the skin, and is of a harder texture and transparent. On Friday, when I killed the gnu, the Bushmen had observed in silence my adjusting the camera to photograph the troop, and when the gnus ran, and I fired and brought down the game at long range, the Bushmen, instead of running off at once, took me by the button-hole, and asked whether God (Morimo) was in there—pointing to the camera.

I shot a most magnificent bird here, called by the Bushmen kodzara. It is evidently a kind of crapu. I notice the high-flying eagle often soaring over guinea-fowls and pheasants, but they keep out of range. A small and pretty warm-brown hawk hovered all day long about over the mice-holes which are here so numerous; but I found it impossible to get even within 100 yards of it. The grey pheasants abound here. Peewits, plovers, and a few small gulls, ducks, and geese, are still sporting in the vleys, of which I found five or six containing water on the east side of the plain or pan. I saw here also the mocking-bird, or kochelaar of the Boers; it is not found farther west.

27*th May.*—This morning a keen, cold, cutting wind, with a fog, blew across the plain, so that the fire is the centre of attraction, and all hands crowd around it. The dogs lay coiled up shivering, and the cattle, instead of grazing, stand with hair erect huddled up under the lee of trees and bushes.

On these plains the wind blows almost continually, often with great violence, and uproots even the giant baobab (which, owing to its bulk, offers such great resistance to the storm), of which several may be seen prostrated, in spite of their stupendous bulk and very extensive roots. About 11 o'clock a cold fog succeeded. The wind continued very unpleasant all day, so that there is no chance of photographing.

28*th May*.—We have been here now a week, as well to allow time for the sick people's recovery as to try and get a good photograph of the mirage on the salt-pans, and the giant baobab tree; but although I have spent a deal of time and patience already, I fear I shall have to give it up altogether, as wind and weather are against me. To-day the sick people say they would be able to walk a little distance, but the wind, accompanied by fog, is so cold and cutting that it would be cruelty to suffer them to do so unless a lull takes place. The game is driven about for shelter, and men and beasts also.

In the afternoon we start across the plain to Tsametko, a well near which stood a Bushman village. The head-man speaks Sechuana tolerably well, and, on the promise of a few beads and some tobacco, he undertook to conduct us through to Kowgnarra by a more southernly route.

The Bushmen begged the offal of a springbok which I shot here. The stomach they filled full of blood and fat, and baked it in the hot earth. The lower joints of the animals they also got, and from these they extracted and swallowed the marrow raw. The blood of some animals they also eat raw.

30*th May*.—The wagons reach Thanyo, or Kanyo, a springvley in tufa, on a plain (about nine miles farther on). I had a chase after and wounded a fine male giraffe. Saw some gemsboks, and plenty of game spoor, such as elands, rhinoceroses, &c.; made skaarms, and lay by the water. At night eight rhinoceroses came to drink, but never within reach of me.

John fired at one. The rhinoceroses, all of which were white, occupied each twelve minutes to drink their fill, after which they wallow in the mud, or else go to their regular sleeping-places. At these their dung is found accumulated, sometimes to the amount of a ton or more. They like the warmth of the manure to lay in. The sounds emitted by these animals is something like the coughing of a horse, and when in distress, a stifled asthmatic cry; when in pain they squeal like a storm-whistle. The white rhinoceros likes the open plains, where there is just enough bush to shelter him from sun and wind. The borèlè likes the jungle of thorns (haakdoorn), and the most secluded and retired spots. The khoetla, or large black rhinoceros, is more an inhabitant of rocky hills.

I noticed last night a fine meteor at about 10 o'clock, ascending like a rocket. This is the second of the kind that we have seen this trip.

Yesterday afternoon, while going to the spring, I nearly trod on a yellow cobra, which lay in the path. It raised its expanded head high above the ground, and in another instant would have bitten me had I not quite involuntarily started eight or ten paces off.

The plains last travelled over by us are very beautifully diversified with dwarf palms and downy acacias dotted over them. We are evidently travelling parallel with the Ntwetwe pan, lying some miles south of us.

31*st May*.—We lay by the water to shoot, and were hardly seated in the skaarm when we heard the approach of giraffes awkwardly stumbling over the loose stones near the water. One male was in advance; he came opposite me, and I might have dropped him on the spot, but I let him pass on to Baines's skaarm, while the remaining giraffes (about twenty in all) stood 200 yards off, spread apart, and tapering gradually away in the distance, while their male companion

came to reconnoitre the ground, which he did by going round the pond, and bending his neck into a semicircle to smell the earth. At length the others came up, and, selecting one, I fired, but with blank powder, having omitted to put in a bullet in the afternoon. After firing at some quaggas I quickly seized another gun, and wounded the animal, which made great strides to get away, but I was able to get up to him, dark as it was, and give him another shot. Five rhinoceroses drank at intervals during the night, at two of which I fired, but as it was very cloudy and dark neither of the shots were immediately mortal.

Next morning I rode out in hopes of falling in with vultures somewhere, which would direct me to some dead animal, as we could not succeed in keeping the blood spoors; but without success. I saw some gemsboks, but they were so wild I could not near them, and our dogs fell in with a troop of elands, and caught two young ones (about 300 lbs. each), which the Damaras speared. I shot here the white ibis (*Ibis religiosa* ?), and the little silvery widgeon, or duiker, which I have mentioned before at the Zambesi and in Walvisch Bay. How these birds and others, such as coots, rails, &c., travel from the rivers, I do not know, as they do not fly, only skimming over the surface of the water, from which they seem to obtain aid or support by flapping the points of their wings on it as they proceed, and never rise above it. Young ducks and geese I have found miles away from a dried-up pool, where they were hatched, marching along the foot-path or game-path, under the guidance of their dam, to another pool or river.

Baines, Barry, and myself lay by the water to kill game. A large male white rhinoceros came to my skaarm, a hole in the ground two feet deep—so large indeed that I mistook him for an elephant. My first attempt failed, from the cap snapping, but, seizing another gun, I fired as he was in the act of

flying, and the shot was not immediately mortal. By and by two others came, and, by arrangement, I fired at the foremost and Barry at the other. Mine fell with a broken shoulder, and, struggling off a little way, I crept out of the skaarm, and with one more shot killed her. Presently something approached the dead rhinoceros, which we made out to be, first one, then two, three, four, six, and lastly eight rhinoceroses—a whole troop! The cry was, "No, they are elephants!" They came head-on, and not until one pro-

SLAYING A WHITE RHINOCEROS.

truded her horn over the edge of the skaarm was the illusion dispelled. At that moment I fired into her breast, when, with a terrible puffing, sniffing, and distressful squealing and charging hither and thither round us, the cow dropped, and died by the side of the other, while the remainder, ten in all (including two young ones), closed around her, uttering cries of mingled rage and distress. At this moment I crept out and followed them, wounding successively three others, and then, deeming it unsafe to expose myself any

more, retired to my skaarm. I thought all this firing would drive everything out of the country; but I had not long settled myself for sleep when another approached, smelling at the dead ones more warily than usual. I, however, succeeded in giving him a shot, which drove him off with the usual puffing and squealing, and after this Baines, at his look-out, also got a shot at one; then I went to sleep with a good inclination, after three nights' constant watching.

2nd June.—I photographed the two rhinoceroses (females), one of which is the so-called kobaba and the other the mohogu, but I believe them to be only varieties. I rode out to kill one of the wounded ones which stood close by, but wishing to see how the dogs behaved, and give them a little training, I waited till they roused him, looking on within thirty yards: to my surprise, the rhinoceros proved more active than I could have believed, and gave my horse great trouble to overtake him, and when he had done so my gun missed fire three times, and, after a gallop of about five miles, I lost sight of him, dogs and all, to my great mortification, in a field of mopani bush.

I saw numbers of vultures alighting far in the south, but I was too distant from camp to attend to them. On reaching the spring, the Bushmen said they had seen a rhinoceros near where I started the other one; so, having first finished my photography, I rode thither and perceived one, a bull, standing in the long grass on the plain. This time I had taken the precaution to leave the dogs, and dismounting from my horse I crept to within forty paces, and gave him a deliberate shot behind the shoulder, which set him galloping off. Quickly reloading and overtaking him, I gave him another shot, and then another, apparently without any other effect than to excite his curiosity and bring him trotting towards me, when I gave him two more shots. The dogs

now came up and were charged; I followed to give him another shot, and a young Bushboy, leading my horse, incautiously did the like. When pursued, I fled past my horse, but the Bushboy, afraid to abandon him, notwithstanding that I told him to do so as I passed, stood shaking my whip at the approaching beast. I felt alarmed, and halted with the intention of firing at the animal's head if it came near the boy, but, fortunately, the dogs worrying him, he turned away, and ran into a bush to rub off a Bushman's spear which stood planted in his back: there the poor animal remained for ten minutes, when he staggered, fell, and died.

I killed a snake near the wagon: it measured 4 ft. 5 in. in length and 3 in. in circumference. It has a black stripe down the back, half an inch wide, as ground colour, on which oblong scales lay close together. A central row, being of a lighter colour, looks like a pale streak down the middle of the back; a line of half an inch on either side, light brownish-grey; eyes hazel. Found creeping on the ground near the wagon: looks like a tree-climber.

Notwithstanding an opinion to the contrary which is entertained by many travellers, I do not believe that the so-called kobaba is really a distinct species. The Bushmen say kobaba in some dialects for a white rhinoceros (or the long-horned variety, which the white rhinoceros actually is): hence probably the mistake. In countries where guns are not yet introduced, the rhinoceros is suffered to attain a greater age; their horns consequently grow longer, and in the course of time begin to straighten, and eventually, owing to the friction of the under-side against the ground, maturity of age, &c., incline downwards. Some change like this is, I believe, perceptible in all animals in extreme or mature age, or at a certain time, which is, perhaps, often their prime; filing or friction on one side of the horn also would incline its growth in that direction. I believe that wherever guns

are to be found at present the white rhinoceros is not allowed to reach its prime, and will soon be extinct. In newly-opened countries we always find long-horned rhinoceroses at first. These are picked upon, chosen, and even trailed and shot, by every new comer, for their long horns. I have never found a person yet who could conscientiously say he had seen a young or middle-aged kobaba distinguishable from a mohogu—not even a Bechuana or Bushman.

4th June.—While the wagons and sick people were being moved to more comfortable quarters, in an isolated thicket half a mile north-east of the water, I walked over to the Bushmen's bivouac. It was pleasing to see the progress the four men had made. All the flesh of the rhinoceros I had given them was cut up and neatly hung on stages, forming a square, in long festoons, under the shade of which they were cutting up the feet and the hide into thongs with which to tie up the meat into bundles. The bones were cleaned and picked, ready to be chopped up and the fat boiled out. The blood had been collected and hung up in gut-bags, some of which were converted into water-vessels. This was rather a contrast to our Damara encampment. The heads of the two rhinoceroses which I had wished to photograph were being stripped by a hundred vultures. Parts of the vertebræ had been picked clean, large junks of flesh lay scattered in all directions, some in the sand, some in the dung, and a few pieces hung on the neighbouring trees, while all the way to the river the ground was strewn with patches of hide and pieces of meat, which had been dragged hither and thither by wolves and jackals during the night. Added to this confusion of things, there was nothing but quarrelling going on day and night, each envying some bit that another had.

I found one of the golden lizards which I mentioned in my journal of 1853, on my way to Sekelètu's. It is four and

a half inches long, has a small, neat head, very small legs, feet, and toes, a thick tail, and the colour is as near a representation of shining gold as one can find in any living creature.

Sunday, 8th June.—After remaining here ten days, waiting the recovery particularly of our sick people, we made a short trek to-day of seven miles to a cluster of palms. These palm trees (*Nucifera Thebaica*) are visible to the naked eye at a great distance. Across the pans I have seen the tops 20 miles off. These otherwise naked plains are studded here and there with solitary or small groups of tall palm trees, or young ones. Having been riding a long distance to-day, and feeling thirsty, I off-saddled near a group and shot down some bunches of their rich brown fruits, severing the stems with a bullet. Knowing these nuts, of the size of an orange, to contain a milky fluid like the cocoa-nut, and boring with a knife into one of the eyes, in general just opposite the stem, I got a sufficient and pleasant drink from about twenty of them. They are miniature cocoa-nuts, but so hard that I have never been able to break them with stones. The rind is esteemed very good eating, resembling somewhat in flavour ginger-nuts; hence it is known as the ginger-bread tree. Those which I got to-day were not ripe, in which state they are eaten boiled—pulp, rind, and all. One finds the young palms so far removed from the large bearing trees, sometimes 20 or 30 or more miles, that one naturally wonders how they came there; but on inquiry from the Bushmen I find that the fruit, being eatable, is conveyed all over the country, and the kernel being thrown away it germinates readily. These trees are a very pretty sight when they form groups; they have a large, radiating, fan-shaped, recurved leaf, on a compressed stem six feet long, the latter having brown-hooked thorns an inch or two apart on either side. Some of the leaves, especially

on the large trees, are curled up into a circle, which adds to the beauty of the tree. They stand from about forty to sixty feet high, the trunk being only from twelve to eighteen inches in diameter, often less, and generally thicker in the middle or near the top than at the bottom.

I procured some of the root with which, many years ago, I saw the Bushmen cure themselves of snake-bite. They call it eokam. This creeping tendrilous plant has a leaf like an obtuse rhomb, rather downy, and having a chilli-shaped aculeated pod, full of a long silky fibre adhering to the seeds. We see so many snakes of late that I think it necessary to have some of this plant in case of accident. About eight or ten grains, either eaten or taken as a decoction, act as an emetic. The dose is repeated about three times, when the patient is cured. They also tattoo and scarify their bodies, and make an incision near the wound, which they suck with some of the root, chewed, in their mouths. This is evidently to prevent the poison acting upon the gums in case of bleeding. The sucking out of the poison is not necessary, but it is done by way of precaution. Bushmen having a bit of this on their necks laugh at snake-bites. I shall gather a lot and take it to Cape Town with me. I mean to try the tsetse poison with it, and the poison-grub also.

I have had the good fortune to fall in with some of my old friends, the Bushmen whom I had about me in 1852–53. They are much more agreeable and willing fellows than those we have lately had to do with. Old Pèlè, a Sechuana, has been our guide from the Baobab pan. He is about fifty years old, has lost one eye, and is very communicative: he does not speak Sechuana according to the most approved style, but in rather a comical one of his own. When he means to say, "We will sleep" (*robala*) in such and such a place, he says, "We will *break down*" (*robega*), and for "We will pass" (*phieta*) he says "We will hide" (*pitla*). How-

ever incorrect and ungrammatical their imitation of Sechuana may be, the style has become universal in these parts, and quite intelligible to those who have dealings with them.

This is the first time that Bushwomen have visited our wagon since we left Walvisch Bay. Here they and their children come fearlessly to see us, to dance and sing, or to examine the wagon and oxen; but west of the lake no female ever showed herself, excepting near Riet Fontein, where they are already become quite Hottentotized and dissolute. The Bushmen generally are less corrupt in their morals than any of the larger congregated tribes, excepting when they have long been in close contact with them. They live comparatively chaste lives, and their women are not at all flattered by the attentions of their Bechuana lords. Instead of an honour, they would look upon intercourse with any one out of the tribe, no matter how superior, as a degradation.

On the whole the Bushman seems to be the happiest of mortals in their simple state, and in their parched wilds, which "just gives what life requires, but gives no more." The wide desert, with its life of comparative freedom, imparts even to the civilized white man a degree of, not exactly happiness, but freedom from care and anxiety, which it is hardly possible to obtain in a civilized state of society.

9th June.—After a few miles we passed a sandy hillock on our left, where were large troops of gnus and quaggas, some gemsboks and hartebeests. In another five or six miles we left the prairie, when the grass was as high as my horse's withers, and sometimes two or three feet higher. This is the tambookie grass, which has a very acrid taste, and emits a strong resinous odour. We then entered a country where the golden mopani encircled with its bright foliage the grey trunks of motchueries and granite-like trunks of the giant baobabs: where these trees fall, a number of tall saplings

soon spring up from the upper surface of the now horizontal trunk, and grow into trees. This tree is a bauhinia. The leaves look like a rhomboid divided into two; the texture strong, and petiole reddish. The core of the wood resembles mahogany.

The whole distance to Kowgnarra is about 18 miles. Here we struck into my old paths of 1853–4–5. The water at Kowgnarra was very low indeed, but still abundant for our purposes, and hundreds of quaggas and gnus are drinking at it. The Bushmen recognised me at once, though it is seven years since they saw me last. A wagon from Sechelli's has just passed on to Sekelètu's, but the waters have been so scarce that they were obliged to send their oxen from Kamma-Kamma to drink here before starting afresh. Several of my favourite fountains have dried up, but fortunately I hear that the late rains have fallen abundantly to the eastward.

The glare of the sun is so great that one can hardly open his eyes to look upon the extensive plains covered with ripe grass: to me it is painful. The haze conceals miles of the level country from our view during the day, and the horizon appears only about a mile distant all round; but in the evening, when the sun has set, one can see, standing on the wagon-box, 10 or 12 miles in every direction. To-day we had an unusual wind from the westward. It was so dry that I felt in a constant fever. I think this is owing to there having been so little rain in the Lake country and westward this year; for the winds from the south and south-west bring a cooling freshness, if not a perfect fog, with it, and in the south-west and south I hear they have had abundant late rains. The thermometer was 82° in the coolest part; lately it has seldom been much above 70° at mid-day.

The Bamañwato seek, by various pretences, to delay our progress, wishing me to kill game for them; but we con-

tinue our advance to the eastward, under the guidance of our friendly Bushmen. Leaving Kowgnarra, we came to Odeakoè, another fine spring in sandstone tufa. This was the residence of Sekomi after he had been conquered and plundered by the Matabele on the south-east of the great salt-pan.

While walking ahead of the wagons I saw several snakes, which I disturbed as they lay sleeping in the path. These frequent meetings with them made me quite nervous at last, especially when one sprang three feet into the air before me; I could not help leaping away several yards. But the snake's great leap was induced by nothing more than fear. It was asleep, and was startled, which lent it for a moment such involuntary strength. This particular snake is a thin striped one, called by the Bamaīwato *masèmème*. They have a superstitious belief with regard to it that, when one meets it in the course of the day while he is hunting elephants, or whatever he may be in pursuit of, fortune will favour him.

Our Bamaīwato friend, Morèymèle, tried very hard to dissuade me from going north, and advised me rather to go south. Besides the lying story about my brother, he now, on learning our intention of going viâ Chapatani's to the Zambesi and the east coast, assured us that Chapatani's tribe had been lately destroyed and scattered by Moselikatze, affecting to be astonished at my ignorance of the fact. Finding that no device of his would make me alter my course, he begged for everything, and, getting nothing, said he would accompany us. I would have paid him something handsome to be rid of him, but dared not let him know it.

11*th June*.—Leaving Odeakoè yesterday, we rattled over six miles of country to a spring in tufa, called Gnasani, passing mid-way a dry pan, which, like many others, had

been a living spring when I was here a few years since. This morning I sent the people, with the dogs, to follow the spoor of a rhinoceros which John had wounded during the night. We lost the best of our dogs in consequence; he seized the rhinoceros by the nose, when the enraged beast impaled him on his horn, and then crushed him with his ponderous foot. This rhinoceros was a magnificent one, standing 6 ft. 8 in. high at the shoulder. We took the best of the meat, and left the remainder to Morèymèle and his people.

In the afternoon we travelled on to Kagopélie pits, about six miles, through groves of beautiful mopani, with a field of soft sweet grass of uniform height, growing on the perfectly level surface beneath, without any weeds or underwood. The soil seems of that bluish, clayey, tenacious consistency we find in the bed of the pans, or is partially covered with a sprinkling of white sand and reddish gravel; in some parts large tracts of this level ground are strewn with shingle. The mopani leaves have a pleasant aromatic odour, something like the orange. I frequently crush a handful, and find the odour very invigorating. There is also a small bulb called tao, used by the Bamañwato ladies as a perfume, which emits a really pleasant and refreshing odour. This, I find, grows between the limestones near the springs, as also a kind of portulaca, with scarlet flower, which, crushed in the hand, is very fragrant and refreshing.

12*th June*.—After an early breakfast we started for Tsagoobyana and Tsagoobye, about four or five miles distant. I rode ahead to-day, being tired of walking, and having been obliged for some time past to give up my wagon to two sick Damaras. My Bushman guide observing the spoor of a rhinoceros, took me on it, instead of following our proper course; his design did not escape me; but as the spoor was fresh, and there seemed a good chance of our overtaking the animal,

I pretended not to see the trick, and after two miles we came upon him lying near a field of stunted mopani. His friends the khala birds warned him, and us too at the same time. He made a movement as if he were going to get up, which satisfied the birds for the time, but, changing his mood (laziness, as usual, getting the better of him), he still lay quiet. I had sprung from my horse and stalked him, and now I fired, and I did not expect to see him rise again, but in an instant he was on his legs, and rushing through our ranks with blind fury. I had not time to mount my horse, so took shelter behind him, and when he came near us he turned away again and fled. He ran half a mile, but I would not waste more powder and lead upon him, seeing that he was dying. The Bushman and my Damara servant seemed to take particular delight in torturing him with their spears, while he was trying to support himself by pressing his chin, which is always near the earth, against it, curling his tail over his rump.

Pursuing our course, we halted at Tsagoobye, and sent the oxen to drink at some pools of rain-water on the margin of the Ntwetwe salt-pan, which is still parallel with our course from about south-east of Kanyo. We are now, however, within a mile or two of its margin, and on my track of 1852–4. At Tsagoobye we found water for ourselves, and, in case of necessity, might have dug for some for the cattle, as also at Tsagoobyana. I photographed one of the baobabs under which we outspanned. A large bee-hive was situated about forty feet from the bottom; and along this, the straight side of the tree, were two rows of pegs driven into the soft wood to answer the purpose of a ladder, by which to scale the hive at its giddy height. By the marks of several successive sets of pegs, I should say this bee-hive must have been here a great many years; I think I noticed it ten years ago.

To-day we saw abundance of game, troops of from 500 to 1000 quaggas, and the like of gnus. Smaller herds of the graceful and warm-coloured pallahs add their attractions to the natural parks of bright-leaved mopani, and in the open plains troops of springboks roam peaceably about, like flocks of sheep. I might have shot game here to my heart's content, but we had enough, and ammunition was growing scarce. Water boils at 207°; therm. 73½°.

I shot here a brace, male and female, of the roan antelope, and photographed them. The Boers call them bastard-gemsbok, or bastard-eland; the Bechuanas call them qualata. They resemble greatly the black buck in form and action. This antelope, unlike the true gemsbok, visits the water regularly to drink. It inhabits the elevated regions from the north of the Trans-Vaal to the Zambesi, but extends its range into the sandy desert as long as the rain-water lasts.

The Bushmen lay to watch in a skaarm adjacent to the téllé-kello fences, in which during the day-time they have made a large fire of hard wood. In the evening they cover up the burning embers, and a gentle warmth is imparted to the atmosphere around for a certain distance within its influence. During the day they also shape several large clubs out of touchwood, generally of some decayed baobab, and when at night the game have poured down to the water they rush out on either side, extending themselves towards either end of the funnel-shaped fences. At the entrance they throw the clubs, which they have previously ignited, at the panic-stricken animals as they try on all sides to avoid entering between the two fences. The burning brands, flying about like meteors, cause them to change their course, and the startled animals rush thundering between the fences, which gradually narrow as they advance, increasing at the same time in height and strength. The demoniac

yells and blazing firebrands of their pursuers add to the terror and consequent speed with which the hindermost are impelled onwards. At length, when their terror is at its height, between the highest part of the fences an escape seems at hand by the apparent opening in front. Men on either side guard the fences, so that they do not break through, and with one terrific bound they leap the low square fence fronting the pit, and are swallowed up by the treacherous and yawning abyss into which they are precipitated one upon another, until the whole presents an indescribable chaos of writhing, smothering, and torturing agonies. The pit is filled with probably from 50 to 100 head of game, and the living make their escape by trampling over the dying, while the delighted Bushmen rush in, spear in hand, and slay the uppermost while they are struggling to escape.

In the evening I went to the water, shot two gnus before dark in the neighbourhood of the fountain, returning to which I observed a pair of roan antelopes, which I could just distinguish to be such. I followed them up, shot one and wounded the other, and covered the former with bushes from the vultures. At midnight I shot a fine male by the water; another, and a borèlè: thousands of thirsty gnus stood around, but were afraid to come down; several rhinoceroses likewise. Next night the game came again in great numbers, but were afraid to venture down. A fine male lion drank near me, but just as I had made him out and raised my gun to fire at him, the noise of the people at the wagons startled him, and he slunk away. I killed a gnu and a steinbok.

In my former journal I mentioned our being surrounded by ten lions one night, near the Shua, and that we had nearly expended all our ammunition upon them without their even flinching, till at length I hit a lioness near me, and she bounded into the air with a growl, and went off followed by the rest. To-day I accidentally heard from Morogonyani

that after our wagon left that place next day, his brother found the lioness dead; she was a very large and fat one, and they ate her. This makes only seven lions killed by me during twelve years of experience of African travel, so much less numerous are these animals than is supposed by many persons.

CHAPTER IV.

Metsi-botluko — The Salt Lake and Ntwetwe Basins — Poison-shrub — Puff-Adders — Watering-places in the Desert — Tsamafupa — Seringa Forests — Approach to the Zambesi Basin — Daka — Interview with Makalakas — The Sable Antelope — Native Customs — Final Start for the Falls — Difficulties of Approach — First View of the Falls — The Goal reached — Our Camp at the Falls.

On the 15th of June we started for Metsi-botluko ("the bitter water"), which we reached next evening. This was my farthest east in 1852, at which time the country had never been visited by a white man. In 1854 I advanced to the south of this point, and opened up the country north-east to near the Madumumbela mountains, in Moselikatze's country, much to the annoyance of the Bamañwato chief, Sekomi. It is satisfactory to find the positions I gave to the Great Salt-pan and the Ntwetwe turn out so very nearly correct, considering that I had no sextant at the time, my map being made from compass-bearings worked all the way up from Natal in the first place, and from Kuruman afterwards. From my survey of the ground all round the Great Salt Lake, and the various evidences referred to in 1854, I felt satisfied, in spite of all contrary opinions, of there being no outlet eastward from the lake, but, on the contrary, that there is a flowing-in of the Nata and the Shua (a periodical river), and several other rivulets from the east, inundating the lake every summer, and sometimes bringing fish into it. Indeed, no other account can be obtained from the inhabitants on the spot than that which I first gave; namely, that the Salt Lake

was formed by the confluence of the Botletlie from the west, and the Shua and several others from the east. The waters thus meeting from opposite sides overflow a vast level plain of bluish unctuous clay, covered with a white saline efflorescence, and often salt in parts, after the evaporation of the water.

The Ntwetwe, on the other hand, is an overflow of the Botletlie alone, and has no connection with the Great Salt Lake, but comes out of the Botletlie river at Chapo's marsh, and becomes inundated when that river overflows, as well as during the rainy season. The Bushmen say that the Botletlie continues to run towards the Shua, but when that river brings down its mountain-torrents with thundering noise, the latter, preponderating, scatters the waters across the plain, and then pursues its course up the bed of the Botletlie for some distance back again.

I had walked ahead to Metsi-botluko. It was excessively hot, and one of the Bushmen got a sun-stroke. On an open plain, the heat, even in winter, is unbearable here. The natives often get sun-strokes, which I have never known to happen where the plain is bushy.

I found at one water the spoor of rhinoceroses, giraffes, quaggas, &c., and a mile and a half or two miles farther, the fresh spoor of lions, rhinoceroses, elephants, &c.; one of the last-named animals had evidently bled a good deal as he stood drinking. On looking about I observed the track of four or five wagons about a month old, so that some one is in advance of us on this line.

A great number of Bushmen are following us, some fat and plump, others the most pitiable objects imaginable—men, women, and children, shrivelled with hunger. At meal-times there seems really little difference between these poor famished wretches and the dogs; they devour food much more greedily than any white man's dog. Give them a

lump of meat, and they cram themselves in a most disgusting manner.

I learnt here from the Bushmen that there are birds which accompany the gnu, and that every large animal, the hippopotamus included, has a distinct bird, with the exception of the elephant. On inquiring of the Bushmen, who have only water to drink, how they come to be so fat, I hear it is from eating gopanis (egoana), which they stew nicely, stamp it fine, and mix with the fat and eggs of the reptile, which makes a delicious and nourishing dish. Gopanis are plentiful in this neighbourhood; the Bushmen find by the spoor the hole they inhabit, and dig them out. These huge land lizards are from three to four feet long, and another larger kind about six. They are quite distinct from the aquatic kind, which are of a darker and lighter colour, and have the tail laterally compressed, like the crocodile, to aid them in steering under the water. They are a pale, raw sienna ground-colour, irregularly marked down the back with brown lozenge-shaped patches, with small spots between. When irritated they will not only defend themselves, but attack and give chase to man, when they erect their tails and expand their cheeks, which are painted with pale cobalt blue. They dart their forked tongues out with great rapidity, like a snake, and inflict severe blows with their tails, or bite, but are not venomous. They ascend and descend trees with great rapidity.

The Bechuanas have a tradition respecting this reptile—that when God made the crocodile and the egoana, before giving them tongues, he placed two tongues at a distance, and bade them run a race to see which would take both, and that the egoana won the race; therefore they believe crocodiles have none at all, because it is difficult to detect them.

17*th June*.—At Metsi-botluko water boils at $207\frac{1}{10}°$; therm. at 77°. This I believe has been the standing camp

of the Messrs. Green during a whole season, and the game show by their wariness how well they recollect it, for we fired only one gun on the day of our arrival, and of all the many rhinoceroses, elephants, and troops of smaller game which had been drinking the night before not a single one made its appearance during the first night of our stay.

On the following afternoon, while Baines's dinner and his blankets were lying in readiness for him at the skaarm, without anybody to look after them, a wolf (hyena) made free with his sketch-book and one of the blankets, which it tore and partially devoured, ate off the horn handle of a table-knife, and crunched a teapot, but could not appreciate our style of cookery, for it left the cooked viands untouched.

The game here is exceedingly cautious, which shows that there must have been a deal of shooting since I was last here. Killed a snake yesterday, and one to-day.

20th June.—At 12 o'clock we left Metsi-botluko and steered about north-east, having crossed a broad valley running north and south, and again another valley winding towards the latter from the east to the north-east. Walking ahead of the wagons I saw some quaggas and a gnu, but they were so shy I could not get a shot.

As I was looking out for a sleeping-place for our camp, my attention was attracted by the sight of a small shrub, which, from the description that had been given me, looked very like the magow, said to be so poisonous to cattle, goats, and sheep. Plucking some of it, I ran forward to question my Bushman guide, who pretended to be taking us clear of this pest. He looked at me in great alarm, declaring that he was not aware of its existence here, and urged that we should get through it before we halted. This we just succeeded in accomplishing before dark, and encamped on a high sandy belt of mopani some 10 miles from Metsi-botluko. I had sent back at once to urge the people across the deadly

plain with the loose cattle and our flock of sheep and goats, feeling nervous at the thought of losing any more after the ravages already made by the lung-sickness.

Two large puff-adders were brought in at midnight (male and female), having found their way into the bed of a Damara. The male measured 3ft. 8in. in length, and 7in. in circumference; the female 2ft. 11in., and 7in. in circumference. The head is as broad as it is long, very obtuse, muzzle like a bulldog, round nostrils, eyes situated close to the muzzle, only a quarter of an inch back of nostrils. Female, ground-colour, dirty white; male, pale yellow. Both marked with large triangular or conical-shaped streaks, deep sepia brown in female, and dirty brown in male. Irregularly placed spots up and down the sides, and alternate spots on either side under the abdomen. Female has the tail much shorter than the male.

In stuffing this reptile it should be borne in mind that the vertebræ are forced to the outside of every bend in the body, and are not seen in the middle of the skin of the back. The opposite, or inside, has consequently a corresponding depression. In casting its skin, that of the eyes, a pearly, transparent scale, is also included. The name puff-adder has been given to it by the colonists from its habit of inflating itself when irritated, and making a loud puffing noise. Its bite is most deadly. The fangs are half an inch long, and when at rest are incased in a coat or lining. Pupil of the eye, a vertical narrow, sinister streak. The rows of teeth are very formidable. The great breadth of the head is owing to the large, powerful, and elastic muscles at the hinge of the jaws, which enable it to distend its mouth and throat to such an enormous size when seizing its prey. The skin, therefore, stretches from the distended cheeks to the muzzle in a diagonal manner, and looks like the edge of the lower jaw; but this is far on the outside of the position of the jaws,

which are found to occupy a narrow space in the middle of the mouth, immediately under its rows of sharp teeth.

21*st June*.—Five and a half miles through rather heavy sand, undermined by innumerable mouse-holes, and covered with dense mogonono and camel-thorns, with a sprinkling of seringas and abundance of sickle-thorns, brought us to Thamaseitjie, the second of a series of springs in a sandy hollow called Motlomogonyani. Here I found a village of Bushmen under an old chief, Molamo, who recognised me at once, and reminded me of my having once shot for them a quagga and gnu at Kamkerrie. At Thamaseitjie, water boils 206 $\frac{9}{10}$°; therm. 81°. The Bushmen here speak Sechuana very well.

We are now making gradually a more northerly course every day. On Sunday, the 22nd of June, we travelled about five or six miles to a spring called Garuga, in a sandy hollow. Here, although it is a never-failing spring, the water only percolates as fast as it is cleared away by the animals. This spring lies in a broad valley, thickly studded with picturesque mokala trees, all in youth and vigour and full foliage, which is now quite green and downy. The wagons passed two or three other springs of the same kind before reaching this. Here we have the choice of either going round by a line of fountains to the eastward of us, or by going straight through by Tsamafupa and Gum Kabie, as I had done in my previous journey. Though the former was more desirable on account of water, we took the latter, in order to get out of the magow country, and to advance quicker. We are at a loss to see why we have been brought here at all, and become suspicious of our guide's honesty, as he has brought us by a round-about road into the magow, while recent wagons went straight through. He has the impudence to advise me to make a camp here in the midst of it for my wagons and people, and

then to hunt on foot to the other neighbourhoods. In the afternoon we steered across the acacia valley, and then over a thick and heavy sand belt, thickly overgrown with large and beautiful trees of various kinds, such as mokala, seringa, ingaw, a large, straight, and knotted acacia, another still larger acacia, growing from sixty to eighty feet high, and fully inhabited by monkeys; also those large dark-looking trees, the kushè, which I have already mentioned as containing, in a very dry season, water in their decayed cavities. This belt is about three or four miles broad.

After passing through it, with a deal of labour we emerged on an open plain and by a large dry vley, near which stood a most graceful mopani tree, a little to the south-east. We struck into the wagon tracks which we passed at Metsi-botluko, and followed them to the end of the plain, some two or three miles farther, where we slept. Next day we travelled through an elephant forest, striking into an old river-bed or valley, and continued by it to some pits called Gum Kabie. Here we crossed some very heavy sands, quite undermined by mice, who nibble down whole fields of grass at their roots in order to get at the seeds, which they store up. Shortly after this we crossed another dense elephant forest, to get into a valley beyond it, by following which we arrived in the evening at Juruga, two large spring-vleys. Some giraffes were seen during the trek, which was to-day some 16 miles.

Baines and John occupied skaarms at night, as elephants, rhinoceroses, and several other animals drink there. Skulls of elephants, rhinoceroses, buffaloes, and giraffes were plentiful about the water, which accounts for the game being so shy in these parts. There has evidently been great destruction going on amongst them.

24th June.—At Juruga, water boils 206 $\frac{8}{10}$°; therm. 79°.

The Damara cattle do not appear to be so hardy as colonial oxen when water is scarce. They become dreadfully thirsty

an hour or two after their usual time for drinking, and though they drank yesterday forenoon, it was ridiculous to hear them bellowing, and to see them scampering at full speed, with tails up, like so many panic-stricken buffaloes, to the water when they smelt it. Here were upwards of 100 head of cattle in the rush, and 200 sheep and goats, many of which unfortunate creatures, being the weaker, were knocked down and jumped over, and so trodden or nearly squeezed to death in the crush. When the cattle reach the water it generally happens that, greedy and over-nice as they are, the foremost at once dash into the middle, and then the hindermost try to pass them, not satisfied with the water that has been disturbed and rendered muddy by the foremost. Thus the rear rank takes front rank in regular skirmishing order, until they have gone right through, and then the stupid animals come back to look for that which they formerly discarded, but which they now find is still more muddy. They continue walking round and round in the middle of it very disconsolately for an hour, sipping an occasional but reluctant mouthful, while the sheep and horses have long ago taken their drink very peacefully on the very margin of the pool, and are now grazing contentedly.

I saw rather an amusing sight to-day. Some of my Damaras have each a pack-ox allowed them to carry meat for them, but generally they are made to carry their *impedimenta*, consisting of all sorts of rubbish and hides. The oxen are often very unwilling to be caught for the purpose of being loaded, fearing that they are to be overburthened, as is often the case. There is nothing to be done in such cases but to run them down, at which the Damaras are generally very expert. I have often seen a Damara run after and catch a wild ox by the tail, and with a very dexterous jerk to one side throw him to the earth, or, failing in this, seize him by the horns, bend his head round, and thus render him helpless. To-

day, however, the whole troop of men failed, and, the women rushing out in chase, one young damsel soon caught the animal by the tail, and after being violently swung about for awhile, she brought him in with triumph, amidst the cheers of all the women at the men.

26th June.—We reach the Letèba, or pit-water, near Tsamafupa, half a mile south of it, about six miles from Juruga. Tsamafupa has two fine springs. These waters, percolating through the sand, evidently come from some branch of the Zambesi, as they never fail. The limestone springs westward appear to be more dependent upon rain for their supplies than these are.

I notice among the plants here my old and delicious acquaintances, the shesha and the bododo (*Anona squamosa*). The latter is a shrub growing about two feet high;* the leaves are three and a half to four inches long, oblong, smooth on the upper side, and very strongly reticulated beneath, with a downy stem. The skin of the fruit is like that of a pine-apple, and, like it, marked off into square sections. The fruit is of the size of a large apple, with the colour of a ripe pine, and has a sweet powerful odour. When green their fruit is stewed with meat by the Bushmen, as a vegetable. It deserves to be transplanted from the Bushmen domains into more cultivated regions, where it would form a truly royal dish. It is out of season now, nor can I find any of the seeds on the ground. I have had them growing in Cape Town, but they were destroyed by cold and insects. This time I shall take a few plants.† The plant is found in beds like the shesha.

About five or six miles to the eastward of this place lies another fountain called Mazhulie, where people go to waylay

* Dr. Brown thinks this must be a dwarf kind.

† See further particulars of this choice fruit in the author's former journey, vol. i. p. 284.

elephants, &c. We had some idea of doing likewise, but, seeing how extremely shy the game were wherever they smelt the footsteps of man, we feared it would be only losing time. We occupied the skaarms here but one night, and lions only came, but they also departed without drinking when they discovered fresh traces of man. Elephants have been here very recently, and rhinoceroses and various other large game every night before our arrival, but nothing since we came.

The elephants in this part seem now quite to understand what a "skaarm" (screen or ambush) is, and I observe at every watering-place we come to the old skaarms have generally been destroyed by the elephants, who have scattered the logs about, and trampled the holes full of earth again.

27th June.—About six miles farther and we come to Tsamasétchie, a series of springs, lying, for the most part, in a sandy valley, or old river-bed, perhaps branching out of the Zambesi.

The road to this place is again heavy sand, rather more so than the previous six miles, though the bush is not so dense. Our road lay against the western side of a sandy valley full of mateba (sucking waters), and here I discovered that I had been in this country before (from Chenamba), by recognising a vley at which I had slept. I did not know, however, at that time that these vleys were permanent waters.

Elephants, and numerous rhinoceroses, buffaloes, and quaggas, had drunk the previous night: rebuilding a skaarm, which the elephants had demolished, I lay by the water, but only one rhinoceros drank, and he was out of my reach. At Tsamasétchie water boiled 206 $\frac{4}{10}$°; therm. 60°.

It is quite a delightful ride for me through an unbroken forest of many miles of tall straight seringa trees, growing close to each other, like the forests of fir trees near Cape Town. They are just now changing into the "sere and

yellow leaf," but so bright and rich are their colours, that on a distant approach to a forest undergoing this transformation one may be easily led into mistaking their rich golden colour for masses of yellow blossoms. There have been times when I have not so much admired the density and exuberance of these forests, but that was when I had to cut a road through them before my wagons could pass. Here and there these forests are intersected with a large cluster of dark umbrageous trees called kushè, under which the elephants love to stand during the heat of the day. Another magnificent tree is the fruit-bearing tree called sheshebie, a bauhinia, bearing a scarlet bean, also mentioned before. I brought away about a quarter of a pound of wild cotton, which I found in abundance on one bush. It is rather a short staple, but is plentiful.

My object in riding westward was to ascertain the nature of the country, as in case of sending back to meet my brother it would be desirable to do so by a shorter route. I think of cutting across here to Kamma-Kamma, and from there to the Botletlie. I found water five miles off, south-west. At about ten miles observed quagga and buffalo spoors going west, so that, if not a spring, there must still be rain-water.

At midnight John fired a couple of shots, and after that wolves prowled about the wagons, and were constantly chasing and retreating from our dogs. At last they carried off my two beautiful roan antelope skins which I had taken so much pains with, intending them for the South African Museum. Then the lions commenced roaring close by, and a dog was carried away from where he lay coiled up with the Damara children, round our fire. He never even uttered a sound, and next morning we learned a lion had actually put his head into the skaarm, where the boys lay, but they did not fire, they said, for fear of offending me.

On the 1st of July we left Tsamasétchie, and for the next

three days continued our course, for the most part through a forest country, in which the kushè and seringa trees prevailed, finding rain-water in a large vley. Spoors of rhinoceroses, giraffes, and other animals were abundant, but I did not get a shot. I gathered some seed-pods of a kind of lotus, with an edible tuber, found in these vleys and mentioned before. It is enclosed in a kind of fibrous shell, and looks like a kidney potato, and is very delicious eating.

I found here two very powerfully scented mints, used by the Bush ladies as a perfume; and also observed a pretty parasitical plant, growing out of the decayed cavity of a large mopani tree, and hanging pendent in large drooping clusters of very wavy oblong leaves.* We have now come into some of those valleys with tall grass wherein I formerly hunted the elephant. Some of the stalks of this grass are twelve feet high, and some still longer. The joints are two feet apart, but the stalks are not hollow. The valleys here are very fertile, and I have no doubt all kinds of cereals might be grown to advantage without irrigation.

A few of my goats have died from the effects of magow, or, rather, we killed most of them before it took effect. Two puppies died, evidently from having eaten of the flesh, and two more were lost; probably they died in the bush from the same cause; so that perhaps what I heard from the Bamaū-wato on this subject may not be without some foundation after all.

From Tsamafupa, thus far, we have been evidently making a gradual ascent, but my boiler and thermometer have, by some mistake, been put out of reach for the present. In the afternoon we trekked on again, passing several fine vleys of clear water, after emerging from a large forest on a plain

* This plant, I have a strong notion, is the antidote communicated to me by the Bushmen in former years for the tsetse in dogs, and which I desired so much should be tried on cattle.

which I think is the highest part of the country. The air has been quite fresh and bracing all day. I fancy this must be a very healthy place to lay by for a season.

Here I found, to my agreeable surprise, some old friends, five or six trees of the protea (sugar-bush), about seven feet high, the same species that grows at the foot of Table Mountain, and which I have never met with anywhere else. I plucked a branch and a seed-pod, or cone, but the former was thrown away by my servant, who has his own peculiar ideas of the value of botanical specimens, &c.

After passing this place we gradually descended through immense kushè forests, catching an occasional glimpse of blue and purple in the distant horizon, which indicated our approach to another and more hilly region. At length, emerging from another forest, we stood on the brink of a ridge 100 feet high or more, overlooking a tract of open country, dotted with here and there a bluff-like mountain in the distance, for the space of 70 or 80 miles in every direction before us. This spectacle, so novel to us, was perfectly thrilling. We have not seen such a wide extent of country at one glance for upwards of two years; and, what was more, we knew we were now descending towards the Zambesi, which our eyes would fain make us believe we could see already through the blue haze, floating over and blending with the distant horizon. Away to our right, some 80 miles off, lay Shapatani, or Wankie's, and the long wished-for Daka was now, as it were, at our feet; but we could not reach it before nightfall, and we encamped in a detached grove of mopani saplings.

We had evidently crossed a continuation of the ridge which I formerly found existing to the east and north-east of the Great Salt Lake, observing that while the Shua river was coming *from* the north, the Quagga or Gwai river was flowing *to* that quarter of the compass.

I have noticed latterly several covies of a kind of partridge or francoline hitherto quite new to me. It is smaller than either the grey or redwing of the colony, and differs, moreover, from them in the superior richness of its colour, a warm sienna, barred transversely; belly, wings, and tail, dark brown, so far as I could distinguish; and I fancy the bill and legs are orange. Several new birds came into view to-day, and others seemed to disappear altogether.

4th July.—A trek of eight miles this morning, over an undulating country, brought us to Daka, where several little rivulets, uniting, flow eastward to the Luluesie, which again flows into the Zambesi at Molamo-a-tolo.

It is remarkable that for a distance of upwards of 90 miles we had not seen a living soul. No doubt this is in consequence of the "Great Lion," Moselikatze, having let his terrors be felt lately on this side of the country. Here, also, no human being was visible, and great were the conjectures as to what had been the fate of the Daka people. Some of us were searching the ashes of deserted stations for any vestiges of what might have happened. However, I soon set the point at rest by making a little target practice, which brought three Makalakas, black as night, but respectful in their behaviour, to our camp. Setting down their sandals and spears at a distance, they drew near, looking round with an air of disappointment. They said that, hearing guns, they thought we had killed game, but I informed them the guns were fired for the purpose of calling them to tell me the news. This, after a hearty laugh, they proceeded to give as follows:—"Elephants are plentiful to the eastward, and buffaloes also." "But what has become of the white people that were in here?" —"Oh! the white man is dead, and his wagon has returned, and Rapiet has also returned, they having both received assistance by a wagon from Sechelli's, which brought their oxen through the desert by way of Kamma-Kamma, but

Rapiet is still in the neighbourhood if you wish to see him, for we have just come from him." As this man is a Kuruman, and was formerly my servant, I sent John and Dokkie on pack-oxen to ask him to come over to me. He was staying about 20 miles off. Two other wagons were staying a few miles farther on, without danger of the "fly." From thence the owners were hunting elephants on foot, and have already killed six, and probably scared away the remainder. There are buffaloes hereabouts, but in the "fly" to the east of us.

In the country which we have passed since crossing the ridge, a few quaggas, qualata, and tsèsèbis, are to be found, but the ground, like that I mentioned before, near the Madumumbela Mountains, is a loose, black, vegetable mould, so intersected with deep sun-cracks and fissures after every rain, that one can scarcely walk on foot, much less gallop a horse through it. The grysbok* of the Cape is an inhabitant of these regions; also the reitbuck, but the specimens I saw or shot are much smaller than those in Natal.

The country here reminds me very much of Natal, except as regards the absence of mimosas. I have not observed one, as far as I can remember, since the descent to these plains commenced. The only thorn-tree that I have as yet noticed is the magow, having a knotted bark, and the knots being pointed at the apex with a thorn.

At Daka water boils at $206\frac{8}{10}°$; therm. 70°.

Molefie, otherwise Rapiet, came on my invitation. He complained of having no oxen, and not being able to get home. I lent him ten, and gave him two cows. He has been locked in here for fifteen months, and has, he says, killed thirty-eight elephants, seven only of which were bulls. The elephant killed by him six years ago on the Teougé, and which attracted notice from the singularity of its having no less than

* My friend Mr. Layard tells me those I sent him are quite new to him. They differ from the Cape species altogether in size and colour.

nine perfect tusks, was, he tells me, a male. The tusks were ranged five on one side and four on the other. I purchased some of the tusks at the time, but they had been mixed up with many others, and when I heard of the peculiarity they could not be identified. I got Molefie to describe the affair over again, and Baines made a sketch from his description.

Arrived at Daka, our greatest difficulties still lie before us. In the first place we *must* visit the great falls of the Zambesi, and to effect this we have to trudge with our packs of chemicals and cameras on our backs, probably over 60 miles of country, unless we can find some intermediate spot to which we can take the wagons. Then, after all, we shall have to put ourselves in the power, only, I hope, for a short period, of that miserable little despot, Sekelètu, as I understand the best views are to be had from the north side of the river. From the "Falls" we must retrace our steps to Daka, and then convey our traps and tools, weighing some tons, as far as Sinamani's, as I cannot find that it is possible to approach the river with cattle any nearer than this place. I would willingly try what chance there is farther down, but at present there is great danger of being led astray, either through the Bushmen's real ignorance of the country, or the deceits they practise to detain hunters, and get abundant supplies of flesh.

In this way two or three different parties have been locked up for nearly two years, having lost all their cattle. One of these I have just had the satisfaction of releasing and putting him on his way home. Another, a party of Boers, left this a day or two before our arrival, after losing one of their company, who died here ten days ago of fever. The party had been to the river, which fell several feet while they were upon it. I cannot help thinking that the delays causing our protracted journey from the lake hitherto have been in a manner providential. The tribes which dwelt here under Wankie, a Banabya chief, and Dabatu, a Makalaka, with others who

have hitherto received strangers in a friendly way, and from whom I expected some assistance, were, about two months ago, entirely broken up and dispersed by the invasion of the Matabele warriors under Moselikatze. We have thus fortunately escaped witnessing many revolting scenes of bloodshed.

The Matabele killed Dabatu, massacred hundreds of unfortunate people, and carried off all the children into captivity. Molefie tells us we shall find them scattered all over the country; in some places two or three women with forty or fifty men, in other parts two or three men, with twenty or thirty women; but no children anywhere. These people, not possessing cattle, are plundered and murdered solely for the sake of their children, and the few trifles and trinkets which they have obtained from the white men. We hear nothing favourable from Sekelètu's side. The chief practises the same cunning trickery to entice traders across the river, and when once there, compels them to sell their goods on his own terms, or refuses to put them back on the south side: so that for those who have seen both, there is little to choose between the craft and rapacity of the Makololo and the open violence of the Matabele. Hitherto the white man has suffered most from the former.

It now appeared that Sekelètu was not dead, as had been reported, but was still lingering under the ravages of his seemingly incurable disorder. I understand from some of Sechelli's people, who are here hunting, that some of that chief's men, with one wagon, had just passed on to Sekelètu's with the view of making a demand respecting the property of the unfortunate missionary families who died at Linyanti. Sechelli seems to have taken this affair into his own hands, and, we learn, demands full restitution of all the property, including wagon, oxen, clothing, &c., or two loads of ivory in lieu thereof; and threatens, in default, to let them hear of him. However praiseworthy Sechelli's zeal may be, I

fear his demands happen rather inopportunely for us and the object we have in view.

In a few days, Baines and I intend to start, on foot, for the "Falls," where we hear Sekelètu has, since Dr. Livingstone's last visit, left some Makololo, who had been with the Doctor, and who can distinguish between Englishmen and Boers, and report them to the chief. Englishmen are to be received favourably; Boers, to whom, for some reason or another, they have taken a great dislike, are to be put to death.

Sechelli, who embraced Christianity, has given one of his daughters in marriage to Lechulatèbe; from which it appears that old native customs cannot entirely be dispensed with. This makes Lechulatèbe's seventh wife now living.

That singular insect, the caddis-worm, abounds in this country in a variety of forms. They make their houses either of sticks, glued together, or of pebbles, sand, and prickly grasses. The inside is lined with a silky web. Wherever they go they drag their houses with them. The sort encased in prickly grasses are poisonous to cattle when eaten by them.

8th July.—As five men and three women were still absent after an ox, and the forty sick sheep and goats left behind at Tsamasétchie, I rode out in a north-east direction with a party of Makalakas, in order, in the first place, to shoot something for my dogs and my people, and, in the next, to see and learn more of the country before trusting ourselves nearer to the river, and perhaps getting into the "fly" when choosing a place to make a standing camp. I crossed the valley and river of Daka, and another stream running into it from the west, skirting a ridge which appears to run east and west. This ridge, which is high, and seems healthy, I at length crossed, and reached a wagon of Sechelli's people, and encamped on the Chowè, another small

running stream. The country everywhere is undulating and full of little streams, which remind me very much of the less mountainous parts of Natal. The Babylonian willow grows on the river-banks, and on the highest hills as well. I observe a kind of thornless acacia, bearing a pod three feet long, and full of seeds, placed transversely. It is called by the Makalakas, mashashanyama: the leaflets are oval.

A sand-hill which I crossed, on a level with the highest part of the rise, contained the ruins of native villages and gardens which had been cultivated by the Makalakas, and on which lebèlèbèlè, pumpkins, and thunka had been planted in abundance last year, but the stubble was all that was left by the Matabele. The tunka, or ground-nuts, are hoed up by them like potatoes with us. At present, the Makalakas have almost entirely to subsist on a root called magoolie, a pink-flowered convolvulus. This root somewhat resembles the lerush, but is not quite so large. It is more agreeable eating; but I observe that the natives are particularly careful not to eat the skin, which, I believe, excoriates the mouth. The plant grows rather bushy, like a vine, and then creeps up the trunks of trees; its flowers are dark pink or lilac. These tubers, like the lerush, are found growing in stony ground: I suppose the rocks must be a protection to their juice against evaporation, for it could certainly not retain its moisture for a whole season in the hot sands, at almost any depth.

The magoolie is a milky plant, with rhomboidal reeds. The manner in which this root is found is very peculiar and difficult, and a stranger might starve in the midst of an abundance of this root, which is both food and drink to the natives. On approaching within six feet of the plant, or about the area where the seeds have generally fallen, they percuss the ground with a stick, and a liquid or hollow sound proclaims the exact locality. I have been amazed at the wonderful accuracy with which they can detect these sounds,

in which there is, to our ears, no perceptible difference, and as the roots are often not larger than our ordinary potato, it may be very easily imagined how slight the difference of sound must be, as they are found a foot at least below the surface. At the one end of their spear-shaft is inserted a piece of iron, with which they dig it up.

I found a number of rude dwellings of Makalakas and Mashapatani, near the Bakwain wagon. They were constructed with scarcely more taste and comfort than the Bushmen huts. Several of them were enclosed with a circular fence, or kraal, in which, since the attack of the Matabele, they lie at night round large fires, mixed together without distinction of sex. There were only about ten women with sixty or seventy men. They had congregated round the wagons of this hunting party for the sake of the offal and surplus meats, for which they fight with each other like so many hungry dogs. They seem not to have the courage necessary even to concert measures for their own protection, but to have abandoned themselves to despair; and, instead of seeking an alliance with their friends, rob and plunder those parties that are weaker than their own; giving their young children away to Boers and Bakwains, or selling them for a trifle, and keeping only some of the elder ones, because these are able to seek food for them. Still, their conduct towards the white man is scrupulously honest, and any man carrying a gun, be he white or black, can command, bully, and thrash any number of them; they are, moreover, exceedingly light-hearted and merry under the unfortunate circumstances in which we find them.

Having come about 12 miles to the Chowè river, which joins the Daka, I rested there for the night, and next morning, having ascertained that there was no "fly" near, I rode out in search of buffaloes, towards another tabular ridge, about eight miles off, whose abrupt side faced northward.

Having shot a beautifully-marked quagga near the hill, I sent the Makalakas on to the water to ascertain whether the buffaloes, which had been seen a few days ago, were still in the neighbourhood, but they were gone. The quagga is of shorter stature and, I think, smaller in every way than those I shot lately on the road, and the Bushmen and Bakwains, to whom I pointed out the difference, declared they are quite different in the south, where they are only striped to above the knees. Besides the broad band of black near the tip of the ear, there are three transverse lines crossing a longitudinal one at the base. The yellow, or rich brown, on back, sides, and rump, of those I shot before, is exceedingly dull in this. The head and ears small and equine; sex, male; age, about seven years.

Returning from a fruitless search after buffaloes, I observed on the top of another, and about 300 yards off, a large jet-black object under the shade of a tree. For an instant I felt puzzled to make out what it was, but the next moment the animal turned its head into the sunlight towards me, and I recognised it at once by the white marks of its face and its large, graceful, sweeping, scimitar-shaped horns, as an old acquaintance, the sable antelope, one of which I had before shot, far to the south. Another moment, and it had fled. For no other animal would I have run any risk over rugged rocks, deep ravines, and the deep cracks and fissures in the turf, hidden by the long grass; but I could not resist the opportunity of securing a specimen of this most magnificent antelope for the South African Museum. Putting spurs to my horse, and giving him the whip, away I went in full pursuit, scattering stones and pebbles at my heels. Thinking to round the hill over which the antelope had disappeared, I steered across a seemingly level valley, in which the grass, as usual, stood six or seven feet high, the favourite resort of lions, when I came so suddenly upon a dry ravine that my

horse could not check himself, but down went his forefoot into the middle, sending me out of the saddle and nearly over his ears. However, I scrambled out, and, my horse regaining his feet, we soon overtook a small herd of these antelopes, and some quaggas. Observing, to my regret, that the old buck was not among them, I picked out the finest hide and fired: down came the lovely animal upon its knees, but after whirling once round, it dashed after the troop, and was out of sight before I could reload. I soon took up the chase, endeavouring to cut their usual course of running in a half-circle; but in this I was disappointed, as some dogs had been at their heels, and the quaggas had taken the lead. I stumbled on, over protruding sandstones and quartz rocks, and my disappointment was at once dispelled by the sight of a magnificent old buck, probably the one I had first seen, running at an angle from me. Again I plied whip and spur; another little grassy flat crossed, and I should alight, but fate ordered it otherwise, for while viewing with eager interest the animal, which had now turned straight towards me, I felt my horse suddenly sink under me. He was down. I threw myself back as well as I could, and drawing in the reins with my left, strove hard to keep my seat, while my horse struggled on his nose and knees for several paces, but finding myself going, my first thought was for my gun, which, with a jerk, I carefully threw out on the soft grass. It was just in time, for at the same moment my horse came down with greater violence, throwing me on my head, with his hind quarters across my arms, sparks flying from my eyes, and my neck cracking. This was the work of one or two seconds only. The next moment I raised myself up half stunned and stupefied, and my arms, which I had stretched out to check the violence of the fall, were for a moment useless; but on looking up from where I sat, I beheld the animal I had been in pursuit of standing bewildered before me at

the distance of 150 yards. Pain and weakness were at once dispelled; my rifle was at my shoulder, and the next instant the sable antelope had disappeared from my view, as he dropped suddenly into the long grass, in which he lay struggling in the last agonies of departing life. I ran up, loading my gun, lest my prize should escape me; but he was dead, and I only had to admire the exquisite beauty of the beast, whose long and gracefully sweeping horns, deep black and glossy coat, and soft flowing mane, contrasted admirably with the snow-white marks on the face, chin, and belly. I could not help thinking, well indeed might Harris write with such enthusiasm about the transcendent beauty of this magnificent antelope.

On the return from this chase I met with some quaggas, and afterwards with tsèsèbis, waterbucks, and reitbucks; but as they were rather wary, and the turfy ground full of fissures concealed by long grass, I did not consider it worth while risking my neck for the sake of any of these. The waterbucks—several does—struck me at first with surprise, as it was many years since I had seen any, and I thought at first I had met with a new animal resembling the lama or the dromedary, by the manner in which it throws forward its breast and holds back its head.

I had left my men and some Makalakas to take off the head and hide of the sable antelope, wishing Baines to make a sketch of it for me, and at night they returned. The hide was a heavy load for one man. The people informed me that within half an hour after I left the spot they were quite overwhelmed by the numbers of buffaloes, which, in their flight from the Bakwains, who were chasing them, pounced suddenly upon them. They said there were several hundreds.

Having now a store of meat, I was visited, of course, by two or three petty chiefs, who had formerly not noticed my arrival. They brought me presents of various kinds, such as

a tiger-skin, an elephant's tusk, and a bundle of some small furs. The women brought me presents of motlok-eeja and magoolies, and compelled me in this manner to give them flesh in return. I parted with some of it reluctantly, considering that I had come so far to shoot meat for my own hungry men and dogs; but it is good policy to share the spoils of the chase with these people, who are generally willing to render assistance, and, besides, evince hospitality themselves to strangers when they have it in their power.

The Bashapatani, several scattered families of whom are to be found hereabout, are also a light-hearted set of people. They are known by their dress, which is very like that of the Damaras on the west coast, except that the large coil or girdle around the waist is wanted. In their language, also, there is a great affinity, and they have their front teeth chipped or filed like the Damaras. They have a good ear for music, and play on a kind of instrument with their fingers and thumbs. It is made of eight notes and eight half-notes, properly modulated, and fixed on a small board which is fastened inside of a hollow dry gourd: it sounds like a very large music-box, and the tones are equally sweet, when played upon by a skilful musician.

The Makalakas weave a kind of mat or rug out of large pieces or slabs of the baobab bark, which, when well beaten and rubbed a little between the hands, is of the springy consistency of coir, or cocoa-nut hair, but much softer. These people at one time possessed cattle, sheep, and goats, but this wealth caused their ruin. Moselikatze scattered all the tribes in his neighbourhood before him on his retreat from the conquering Boers, sweeping away their flocks and herds; and these people, who were a large, powerful, and rich tribe, were the last the Matabele could reach in this direction, the Zambesi river putting a stop to further inroads. So effectually were these poor people subjugated, that they have nol

the least desire to possess anything that is likely to excite the cupidity of the Matabele, and nothing in the world would induce Wankie, and some others, to possess themselves of guns and cattle, though they have the means of obtaining these things with ivory, which they prefer giving away for beads and clothing. The Makalakas, taken all together, must be very many times the number of the Matabele; but there seems to be the same want of unity and absence of national spirit that exists among the Damaras, so that there will probably never be a chance of their uniting their forces to resist the tyranny of the oppressors, who make yearly inroads upon them to carry off the only things they possess, their children and their corn. These marauders very seldom meet with any resistance. Half-a-dozen of them, I am told, will walk into the midst of a village containing three or four hundred men, and ride roughshod over them. These plundering expeditions generally take place in the months of March and April, when the corn is ripe. The Matabele on these occasions freely indulge their greedy and bloody propensities, quarrelling with and insulting all that come in their way, with the sole object of obtaining an opportunity of slaying a man in order to make a boast of it.

Next day I returned to camp, and found all well, but hungry. The Makalakas followed speedily, bringing, with scrupulous exactness, every piece of meat which had been given them to carry; but the sable antelope's hide, by some accident, had lost the brush of the tail.

Saturday, 12th July.—I got a new camera made, rectified two baths, and made every preparation for a start to the "Falls" on Monday, intending to take the wagon to within 20 or 30 miles, and then proceed on foot. In the meantime John is to proceed about 20 miles farther north-east with the cattle, to a place reputed to be quite free of tsetse, and wait for my return. At the moment we were beginning to

inspan, a messenger arrived from Molefie, stating that he was going with me to the "Falls" if I would wait for him. He was bringing his wagon as far as Daka, to leave it there, while he went with us and rested and doctored his foot, which would prevent his driving the wagon for some time to come. As I had been wishing for the assistance of an interpreter I waited for him, but on his arrival found it was merely a ruse to detain me. He would give me a man as guide and trader, but would not go himself; and as this man, Wildebeest, only gets one musket from Rapiet in a year, I do not think he will be worth ten oxen to me in a month. I gave Rapiet a heifer and a calf. These half-civilized Bechuanas are great nuisances. I did not like the look of the man; but as I am persuaded that in order to keep friends with the Makololo while I am photographing it will be positively necessary to trade with them also to some extent, and as I cannot stand bickering with these people so many hours, perhaps days, over a few tusks of ivory, any substitute will be a relief.

15th July.—We left Bonka, and travelled north-west. The streams of Bonka and Daka, though not running very fast, contain large quantities of very clear and sweet water, covered and kept cool by the large lotus leaves, under the shade of which the pretty little brindled fishes swim. These fishes, to judge by the anxiety they exhibit for a number of young ones over whose safety they constantly watch, I should take to be viviparous. All these streams contain a large kind of mussel in great abundance. I do not know whether they are eatable. They have a beautiful lining, with a slight blush of red; but I have not found any pearls. There is also a smaller kind of mussel of a broader shape.

After three hours we came to another stream, where we halted for awhile, and then proceeded over a high tract of sandy country, called Boomka. This we descended on the

north slope, and striking into a dry nullah, running at first north-west, and afterwards more northernly, we followed its course till near the junction of the Matietsie with the Zambesi. In the afternoon I rode ahead, and to my horror discovered a tsetse on the croop of my horse. The Makalakas tried to persuade me that I was mistaken; but this insect, once seen and noted, is never forgotten. I galloped back to turn the course of the wagon down the river-bank, which was tolerably free of bush. While leading the way I killed or wounded one of a herd of waterbucks, and, leaving my horse, ran on foot to the spoor; this being very bloody, I expected soon to find my quarry, but at that moment, the tsetse attacking me again, I caught one, and made a hasty retreat to the wagon, which had stuck fast just in a streak of mopani bush, with fly in it. Baines had seen about a dozen of these pests, and I began to have serious apprehensions respecting my cattle, and the progress of the journey should we not be able to escape their attacks.

At night we slept at the Matietsie river. The following day, proceeding early, I shot a quagga within a couple of miles, and as it was striped to the hoofs, I stayed to photograph it.

In the afternoon we made eight miles on the west side of the Matietsie, and crossed a small stream flowing into it. We outspanned for the night near another stream flowing into the Matietsie, under the shade of a fine male mokuchoñ tree, near a little fountain. A female tree close by is showing fruit, but it is still green. The fruit is the size and shape of a medlar, and when dry becomes a mass of crystallized sugar within. It is a great article of food in the neighbourhood of rivers where they grow. These trees are always barren, unless growing near a male; but the proximity of one male tree suffices to impregnate entire groves of females.

18*th July*.—Encouraged by the spoors of rhinoceroses and

other game, I walked ahead for 14 miles to-day, crossing the Bolongo and Nyati rivers, which both flow eastward into the Matietsie. The wind blows nearly every day from the north-east, bringing with it a thick haze, obscuring the landscape. This haze is caused by an accumulation of the ashes of burnt grass and logs, of smoke and dust and vapour. The country is burnt everywhere, and the grass in parts already green to a great extent. The trees are becoming more green as we approach the river. The game in this country is already much more wary than in the more inhabited countries to the south. I found to-day a peculiar kind of mushroom, growing only on wood. It is like a sea-anemone, with a hole in the centre or top, and little feelers, or antennæ, all over.

We outspanned at the Nyati for the night. Next day, after an early breakfast, we started ahead of the wagon, and on reaching a small conical hill, about a mile due north, I shot a quagga, and waited for the wagon in order to photograph it. I succeeded in getting this animal by very patiently not stalking, but crawling like a snake in the dense grass. I find this is the only chance, and even then one can rarely get within 200 yards. What we call stalking the Boers have a much more correct term for—be-kruiping, or be-creeping. The quagga I shot to-day was the sentinel, a young male, and I was much perplexed by his vigilance. The Bushman pointed him out, saying, "Never mind the others, they won't see you; but he is the spy, steal in upon him when he puts down his head to graze;" but this he did so seldom that I got tired, and after all he detected me and gave the alarm.

We trekked again, and saw some euphorbias; and after three miles reached Sechelli's wagon, outspanned on the Lupubupubu, not being able to go any farther, on account of the presence of "fly" ahead, where last year there was none. Entabeli, the man in charge of Sechelli's wagon, informed

me of his having forwarded his message to Linyanti five weeks ago, and that he has got no answer as yet.

There were three men at the Bakwain wagon, of the lowest order, who appeared to me to be spies. These fellows visited us after dark, having heard that we were going on to the river, without first sending notice and asking permission. I inquired whether Dr. Livingstone was stopped in the veldt. They said, "Yes; it was the law—that Livingstone always sent a long time beforehand, and met the chief's messengers at a distance." However, I told them that we should go on to the river, as I had been accustomed to go before; that, at all events, we would see the head-man of a village, but were not going to be stopped by slaves in the veldt, who could have no authority to interfere with us. They begged we would not go until they had sent to give notice, as they would be killed. I said we would take the blame upon ourselves, but they refused to guide us to the "Falls." At length, after a deal of arguing, and when they were convinced I was determined to go, they offered to give me a guide on condition that I would not proceed any farther until a message had been sent to Sekelètu, and his permission obtained. It will go hard, indeed, but I will get a photograph of the "Falls," after the time and trouble and expense I have lost and incurred with this object in view, not to speak of the risks attending the enterprise in the present unsettled state of affairs.

The hills in this part are becoming more decided and bold in their outline. The highest are covered with reddish, sandy soil, next a hard, brown sandstone, and then white speckled rock, in the valley of the Daka, which is there interrupted by vertical strata of sandy schist (?). On this side of Daka the highest hills are flat and sandy, and correspond with the features of the desert in other respects. The hills generally are not very high or rugged, being composed of broken fragments of sandstone. The bed of the

Nyati is evidently of basaltic rock. A sprinkling of crystallized quartz, and green indications, as if of copper ore, is everywhere to be found. On some of the higher hills south of the Nyati, the hard, metallic-sounding sandstones are full of cavities, sharply worn by the action of water—or otherwise.

Our stock of coffee being now nearly spent, I have adopted the plan of roasting dried pumpkins instead. This I learnt from the Boers, and a very tolerable substitute it makes.

We are informed by the Bakwains that when they reached the river they waited four days without being taken notice of by the people there. They could not get across the river, not being allowed the use of a boat. They say we shall find the same difficulty—endeavouring to dissuade us from making the attempt until Sekelètu's answer reaches them.

22nd July.—At last we started for the Zambesi, under the guidance of the Manwato provided by Molefie, whose appearance and manner was by no means prepossessing, though Molefie gave him a very high character as a trader as well as guide. He was no help to us to-day, but we had taken the precaution of getting from the natives bearings of the direction of the destined goal, and thus were enabled to direct our own course, hoping at night, or next morning, to be guided by the sound of the "Falls," since, judging by our latitude, they could not be far off. A dozen Makalakas carried our *impedimenta*, consisting of sextant, camera, chemicals, &c.

Thus we marched 18 miles, resting occasionally. This was very good work for our people, with the loads they had to carry, considering the heat of the weather, and the glare of the sand-hills; the tsetse flies bit and the sun scorched us terribly.

When we halted for the night, under a huge motsèbe tree by the path-side, we had no idea we were so near the "Falls,"

but as the boisterous laughter and merry frolicking of our little Makalakas subsided, there gradually arose in the air a murmuring, and at length a roaring sound, increasing as the night advanced, and sounding like the dashing of a mighty surf upon a rock-bound coast. So much does the sound resemble this, that a stranger, unacquainted with the existence of a waterfall here, and unaware of his distance from the sea, could not be persuaded to the contrary. It was one everlasting roar, broken occasionally by the thundering, like

THE VICTORIA WATERFALL FROM THE WEST END, WITH THE LEAPING WATER IN THE FOREGROUND.

successive cannonading in the distance; and thus it sounded all through the night. Next morning I walked on, in the hopes of falling in with a buffalo, or some other game, when, on rounding the point of the high sandy ridge on which we slept, my attention was attracted by some object shining through the forest in the distance. That must be water, I mentally exclaimed, as, with some difficulty, I ascended a tree, and there beheld, at the distance of some six miles, a long line of smoking clouds, five large, and a great many

smaller ones, rising perpendicularly from a crack in the earth, as if from a vigorously burning fire, the flames alone being wanting to render the picture perfect. But now the sun rose, shining brightly upon the waters, and gradually dispelling the sombre hues of the huge columns of floating vapours, some of which rose to the height of upwards of 800 feet, imparting to them a warmer, lighter, and more gauzy aspect, which enabled me at once to see the water behind the columns in the background, and that I was in reality facing the Victoria Falls. As the sun sparkled on the edge of the precipice, I could distinctly see the water falling into a long, dark, and narrow chasm, out of which the columns of smoke arose. The course of the river from the north-west was to be distinguished by a long and broad sheet of silvery water, which, running from between low hills, had, at this distance, the appearance of a placid lake, studded with little palm islands. On the south side, again, a double line of sun-lit waters shone in the depths of a beautifully wooded valley, seemingly flowing into the Zambesi. Here and there in the distant valley, on our right, groups of dark, umbrageous trees stood out in bold relief, casting their lengthy shadows over the grassy plains beneath, looking like so many graves with tombstones at their head. In the immediate foreground were tops of naked almond trees, and I recognised, to my astonishment, the anna-boom (of Damara Land), known here as moku.

We now ascended another hill, the last which impeded our way, on reaching the summit of which we got a fine view of the whole length of the face of the "Falls," and an abrupt acclivitous gorge on our right, evidently the opposite bank of the Zambesi river, having a perpendicular wall of rock of gigantic height, winding in a zigzag manner, and becoming bolder towards the east end of the "Falls."

On a nearer approach the river became visible, running

from the north-west; and as far as we could see, some two miles, it was studded with numerous islands, covered with clustering groups of palms and evergreens.

In so far as we could ascertain, there was no possibility of seeing the whole at once from any point on this side, saving the bird's-eye view I had obtained in the morning; for if the trees and surrounding objects did not exclude the view from the eye, the clouds of vapour arising out of the fissure beneath would effectually do so within the first quarter of a mile.

We descended for twenty minutes from the side of a sloping hill, rising probably 300 feet above the "Falls," through a forest which quite excluded the view, excepting the vapour, until we stood on the brink at the one end. Here the panorama first broke upon us in all its grandeur, and I could not avoid the reflection that, could I but have known what a magnificent sight I lost in August, 1853, after being very near it, and how nearly I had forestalled Dr. Livingstone's discovery, I should certainly have made another effort at that time to accomplish the object.

This is not the first time that I had seen the waters of the Zambesi. As long back as 1853 I spent two months on a part of it, a little higher up, at Moreymi's village, where it is incorrectly called Chobé, which is the name of a place. There the stream is not so considerable, but much deeper, and of an uniform level flow; thence it was that I was nearly visiting the "Falls," the natives having undertaken, for a consideration of beads and brass wire, to paddle my companions and myself hither; but as I was going to step into the boat with my companions, Messrs. Thompson and Campbell, we heard that the chief Sekelètu had returned with Dr. Livingstone from Naliele, and our payment was unceremoniously returned, with an intimation that they could not now take us. When I complained to Dr. Livingstone of this treat-

ment, he kindly informed me that our disappointment was caused by the fear the natives had of the Matabele, who had lately cut up a tribe under Wankie for having intercourse with the Makololo.

Mixed with my first feelings of pleasure were some of doubt of the successful issue of my photographic apparatus, for everywhere the spray drenched me, and poured abundance of "cold comfort" upon all my hopes. We approached the brink with trembling, and, carefully parting the bushes with our hands, looked at once on the first grand view of the "Falls" at the west end. Picture to yourself a stupendous perpendicular rent in a mass of basaltic rock, extending more than a mile (scarcely the half of which, however, is visible), and only 60 to 100 or 120 yards wide, right across the river, from one end to the other, into which pours this mighty river, roaring, foaming, and boiling. Then, immediately before you, a large body of water, between eighty and ninety yards wide, stealing at first with rapid and snake-like undulations over the hard and slippery rock, at length leaping at an angle of 30°, then 45°, for more than 100 yards, and then, with the impetus its rapid descent has given it, bounding bodily fifteen or twenty feet clear of the rock, and falling with thundering report into the dark and boiling chasm beneath, seeming, by its velocity, so to entrance the nervous spectator that he fancies himself being involuntarily drawn into the stream, and by some invisible spell tempted to fling himself headlong into it and join in its gambols; but anon he recovers himself with a nervous start, and draws back a pace or two, gazing in awe and wonder upon the stream as it goes leaping wildly, and with "delirious bound," over huge rocks. It is a scene of wild sublimity.

On the opposite cliff of this channel, star-like aloes, with scarlet blossoms, cluster against the sides of the deep brown

rock; and beyond that we look into a dark and misty cavern, the depths of which we could not see. Three pretty snowy rills, enveloped in sylvan vegetation, fall, ghost-like, through the veil of mist, and disappear down this dark cave, the fit abode of Nox and Erebus. Beyond this we see a projection of bare brown rock, over which no water falls, and then a perspective of white and fleecy waters, falling like snowy avalanches, slipping from an abrupt precipice into clouds of ascending mist. A general view of the "Falls" is thus obscured, and it must be seen or sketched from at least half a dozen points. The body of water which leaps down this narrow gap in the foreground (the channel of the Leaping Water) is probably the largest flow that is anywhere to be found in so narrow a compass. We had no means of ascertaining its depth; probably it is six feet; but it begins to be broken up into froth and spray, and shattered into snowy flakes already, before reaching the brink. There is no smooth fall of water anywhere, as is seen in the pictures of Niagara, the water not being deep enough, but it thunders down in white and fleecy masses that are lovely to look upon, and falls into a deep pond of sea-green water driven up against the base of the opposite cliff in large green and crested waves, which rebound to whence they came, and then return writhing in an agony to escape, finally waltzing and eddying out of the pond by a narrow outlet, now leaping over submerged rocks, and now dashed aside by masses of débris which have probably fallen from the summit of the sombre abutment of Three Rill Island, as far as the first seam, as there is no corresponding concavity on the opposite cliff. In the distance, at the farthest visible view of the rent, two, sometimes three, perpendicular falls of water are seen through the mist, contrasting strongly with the dark buttress before you, the bare rock, and Garden Island, all very much foreshortened; but then the revolving clouds of vapour, rolling from beneath, and

curling with centrifugal motion to the height of 900 feet, conceal the farther view from this point. The opposite, or southern cliff, which is the south bank of the river, and faces the "Falls," seems divided in three or four seams or stratifications of different ages, though of the same rock, for which, as far as I could see, there are corresponding marks on the northern cliffs. From the sharp angles of this dark and greasy-looking rock, whose front is constantly bathed in spray, the water runs down in small silvery threads; and it is plainly to be seen how they are first wafted to the eastward, broken into spray, and the ascending volumes carry them up again: but, for all this, larger bodies find their way down, and many silvery rills may be seen silently stealing back to their mother element. On the top of this mural cliff a close, green, compact forest extends, very near to the brink, some of the trees looking as round as if clipped with garden shears, whose glistening fronts are also constantly bathed in the spray.

We stood for some time lost in thought, contemplating the wonderful works of that Providence which could bring into combination, at one view, such a variety of the most stupendous and beautiful effects, inspiring at once terror, devotion, and delight, and bowing the feeble and oft unwilling mind to acknowledge and believe in the superior power of *Him* who rules the heaven and earth, and created all their wonders. We lingered at this spot until the sun was long past its meridian; the deep gulf before us rolling up large dense clouds of spray, on which the sun at our back, shining full on it, reflects two, sometimes three, lovely bows, spanning their brilliant arches, first in the depth of the chasm, but at length rising higher and higher, and forming a double archway across the gigantic walls of the fissure. Rainbows so bright, so vivid, are never seen in the skies. The lower one in particular, probably from the contrast with the black-looking rocks below, was *too* vivid, nay, almost blinding to look upon,

defying imitation by the most skilful artist, and all the colours at his command, yet imparting its heavenly tints to every object over which it successively passes. The colours in these "rainbows" are reversed, the upper one being blue, yellow, and red, the lower red, yellow, and blue.

As the sun declined, the rainbows ascended, until they reached the clouds of spray above the horizon. One segment of the bows is cut off where the spray ends, but the other end is still rising higher and increasing in depth, and as you retreat a little, it spans the whole river for fully a mile, imparting the most lovely colours to the spray-clouds, which steal aloft like tongues of sulphur flame, until lost to view by the downward course of the sun; then the second and more vivid rainbow takes its place and goes through the same evolutions, enlivening and beautifying the scene in the most remarkable manner.

It was necessary to proceed farther, to obtain a more extended view; so making a circuit of about fifty yards, to get round the steep sloping thicket at the west end of the fissure, we peered into it as far as we might, but saw only a profusion of vines, aloes, and evergreens bathed in moisture, and creeping and clinging along its steep sides where man may not venture, their leaves sparkling and glistening with the constant shower. Having rounded this point, we approached the brink of the south cliff, and, putting aside the small date-palms, now faced the leaping waters in their headlong course. The sun shining on its upper surface rendered it like quicksilver, painful to look upon. We approached the wet and slippery brink in a perpetual shower of rain, and, holding on to one another, looked down into the awful chasm beneath us. One look for me is enough, but my nerves are sorely tried by Baines, who, finding everywhere new beauties for his pencil, must needs drag me along the very edge, he gazing with delight, I with terror, down into the lowest depths of the

chasm. We continued along the grassy bank, preceded by numerous lovely little rainbows spanning round us, a forest to our right, the chasm on our left, until at length, not wishing to see any more at present, but gradually to accustom myself to the stupefying effects of the uproar and tumult at work in this "cauldron," I fairly fled from my companion.

We now passed on again through the forest, collecting specimens of ferns, fungi, and polypi, which we had never seen before. We see the scenery at a great disadvantage just now, as this is the time of the "sere and yellow leaf." The principal verdure is furnished by evergreens, and there are enough of them; but there are at present no flowers, saving the scarlet blossoms of the aloe clustering against the brown wall of the fissure.

Before leaving this swampy spot, I must not omit to mention the fact that, to our amazement, we found numerous spoors of elephants, rhinoceroses, buffaloes, and hippopotami, besides other animals, all over the very brink of the precipice. It makes one's hair stand on end to see the numerous indications of their midnight rambles at the very verge of eternity. Here they come at the dead dark midnight hour, to drink the spray and wallow in the mire; and on asking a native how it was they were not afraid, he asked me in return, "Didn't they grow up together?"

Having trudged along for nearly a quarter of a mile under the drippings of the forest, we again faced the cataracts, and had a fine view of the first section of downright waterfall, extending with very little interruption over another quarter of a mile in view, beyond which it was again obscured by clouds, and all was mist and uproar, and at our feet fell the towering mass of milky water into a chasm, behind a projecting rock which seems to be a continuation of the jutting abutment before mentioned. This chasm was so deep

that we could not see the rebounding course of its waters; only thick clouds of vapour came flying up fast and fierce from within that "lowest deep," as if impelled by a strong wind, and emitting sounds such as can only be equalled by the united efforts of a thousand busy steam mills. As we stood upon this unsteady-feeling cliff (through which an electric tremor seemed to be constantly passing), numberless jets of mist flew up from its depths like ascending spirits, followed by larger and heavier volumes of smoke, accompanied by a never-ending din. The scene, with its continual hubbub, must very much assimilate a volcano, and nothing but the shooting forth of fragments of lava seems wanting to make it so. To the eastward, beyond, we could see only thick revolving clouds of spray striving with each other for access to the upper air. We walked carefully down the edge of the forest (the front of which was slightly sprinkled with date palms, somewhat relieving the uniform aspect of the foliage), until the white and fleecy streams of water, running down between dark and rugged rocks, became at length quite hidden from our sight by the density of the mist evolved from below, although here there was not more than sixty yards of space between us. We walked to the very brink and peered down into the crack, but saw nothing—fog below, and fog before, around, and above us, and seemingly so thick that one could safely step upon it. For fully the next quarter of a mile the view was obscured by the density of the clouds, so we returned to make a circuit out of the pattering shower, as we were by this time pretty well drenched.

We retreated from the cliff which "beetles o'er the brink," and passed the forest of large and shady trees, which from the opposite side looked like bushes; but here they appear in their own majestic grandeur, from eighty to ninety feet high. On them the spray is constantly falling. Here a whole field of them—the earth being washed away from their roots—were

elevated in the most remarkable manner; their huge trunks supported by their fantastically gnarled and serpentine roots. In one place, a number lay horizontally near the brink, sending their roots downwards, and their trunks and branches upwards, like many-legged benches, forming a natural palisade. In another place, they were tied together with long vines, with their cable-like tendrils, bound to each other "by the strongest ties;" and here was a tall and graceful date-palm, whose brilliant green contrasted strongly with the sombre hues of its neighbouring denizens, like a lucky fellow who, having found a burly friend to lean upon, had risen far above his compeers, and could now look down upon them.

We made our escape from this forest of large trees, at the back of which grew a thicket of graceful date-palms—giving quite an Oriental aspect to the scene—having passed which, we were picking our way very "gingerly" through the mud, in which we often stuck ankle-deep. We were in the act of crossing a muddy rivulet, when, looking up, we beheld a troop of upwards of a hundred buffaloes, the nearest of which were within twenty yards of us. The males were watching our approach in the most sinister manner, while the females were still reclining under the shade of the trees, luxuriating in the most approved style of tropical indolence. In an instant we fired, and again and again, in quick succession, followed the reports of our guns alongside the thundering roar of the cataracts, now pursuing, and then retreating, when chased by a maddened buffalo, whose elevated nostrils were streaming blood. In the course of a few minutes nearly a dozen shots were fired; and now the buffaloes, never having been so roughly handled before, fled; but, horror of horrors, can the reader imagine it? I never expected to look upon such a sight. The leading males shot out of the only cover they had, and the whole herd followed headlong, at frightful speed, to the very brink of the precipice overlooking the "Falls."

It was a dreadful sight, and, buffaloes as they were, I forgot the fact in my horror, and drew back in breathless anxiety at their impending fate, feeling for them as if they were human. Here they stood upon the slippery verge, the front rank looking downwards into the hideous gulf, the hinder ones butting each other, still pushing on as if about to plunge to the bottom. I never expected to witness such a sight: it was the picture of "The White Chief" on the precipice to perfection. For some moments I forgot to fire, and could only think of exclaiming in terror to my companion—"Look! look!" But the demon of a hunting "furor" again getting the better of us, we drove them from their frightful position; and finding that we had slain three close together, exclaimed, like Sir William Harris, "Hold, enough!" and stayed our hands from slaughter. The result of our short attack afterwards proved six buffaloes slain and several wounded; yet not a particle of the flesh was wasted. It was now late, and we gave up our rambles for the day, much pleased with that part of the "Falls" which we had seen, and determined to continue our examination at an early opportunity.

Some of the Batoka, drawn hither by the reports of our guns, came to see, and to report to their chief who was firing. I told them to inform their master (Mashotlaan) that we were here, and I wished to see him at the earliest opportunity. They assured me that Mashotlaan would send to my assistance early next morning, and bring us nearer to his village, to the usual camping-place of visitors.

The next morning, early, messengers were sent from Mashotlaan to say he had sent three canoes to carry the flesh which I had killed, and the packages, to the camping-place at the ferry, and that he would meet us there. Taking all things into consideration, I came to the conclusion it would be much the wisest plan to get rid of my business first, by having an

interview with the man, as, in all probability, if we were to photograph and sketch first, it might alarm them, and in the present state of affairs they would be most likely to construe our proceedings into the most diabolical witchcraft. We passed through a grove of not very large baobabs and almond trees, which at this time of year are quite bare of foliage, and having reached the ferry, nearly two miles west, I pitched my tent under the shade of a willow and some mokachoñ trees. Here we made a circular enclosure with palm leaves, which formed a very comfortable bivouac. This was subdivided into three compartments, on the inside, by a foot-board of poles and palm leaves across the middle; one half filled up with grass made an ample bed, on which we spread our blankets. On the farthest quarter from my camera and chemicals, and the nearest to the doorway, a fire was kept up during the night to scare the wild beasts. My followers encamped in four divisions around.

CHAPTER V.

The Local Chief, or Head-man—Second Visit to the Falls—Scenery of the Zambesi—Garden Island—Hippopotami—The Kalai Rapids—Mode of Life at the Falls—The Masoe River—Umboopo's Village—The Makololo—Prospects of Trade—Leave the Falls—The Keyzie River—Destruction of Elephants.

25*TH JULY*, 1862.—It was not until the evening that Mashotlaan—the local chief, or head-man—whom we had been expecting all day, came to our camp. He made a somewhat ridiculous figure, dressed in ragged European garments, and wielding a knob-kerrie, of rhinoceros horn, in his hand. I expressed my wish that he would send some men to Sekelètu with a present and a message from me, requesting him to hire ten good boatmen for me, that we were going to build a boat at Sinamani's, and ascertain whether the river was navigable to the east coast, so that the white people might come and trade with him by water, instead of coming through the "tsetse" with their cattle, and that I would leave the men at Tètè, under Dr. Livingstone's care, until an opportunity offered for their return.

Mashotlaan conducted himself with some degree of propriety and decorum at first. Instead of begging in his own person, he employed the services of a man named Madzakaza. This Madzakaza, who had been with Dr. Livingstone to the west coast, became a great nuisance to us, and verified in this instance the worthy doctor's observation, that the native character is not improved by contact with white men. Madzakaza does not appear to have even learnt good manners from his intercourse with the Portuguese. Madzakaza, and

another man, who had also been with Dr. Livingstone, were very much astonished at finding Baines travelling in my company from the west, they having parted with him on the east coast, from whence they knew he had taken passage in a steamer for the Cape. They could not understand what brought him here, or where he sprang from, until my companion explained to them that he was accompanying me as far as Tètè, where he had left some property, and had some business to settle with Dr. Livingstone.

Mashotlaan, with true native instinct, wished to look at everything, wanted everything, and at last threw off his dignity altogether, and begged for all he saw. Anticipating hospitable treatment from them, I had given him a present of four pounds of beads, which to a petty chief was handsome, and was determined to give no more. Scarcely had he reached home, when he sent over a man to say he would like himself to have the gun which I intended sending to Sekelètu, and I was to be good enough to send it to him; but from this moment I made up my mind he should get nothing. Next day he made his appearance at our camping-place, with a small basket of ground-nuts, and had the impudence to send for me to the Falls, two miles distant, whither Baines and I had gone with my photographic apparatus, and had just commenced working. I was glad to have an opportunity of treating him with the same indifference he had shown to me. On the following morning he came again, but I anticipated him, having purposely gone out to my allotted work, and when another message came I sent word that he might come to me, otherwise he could wait till night.

I paid my second visit to the Falls. The scene had lost nothing of its beauty since the first impression. There is one thing, however, which I noticed—that as I neared them from the north, the sound issuing from the crack is more

subdued; the smoke during the heat of the day less; but although we can sometimes hardly hear the roaring of the water, though within half a mile of it, we can feel very distinctly a quivering sensation in the earth, like the distant rumbling of an earthquake. But the sound of the waters is very different under the various circumstances in which it is heard, whether from a height or from a valley; wake up at any time during the night, and you may hear it like the roaring of a mighty wind, or the commotion of a wild and stormy sea. I have since heard it at the distance of 15 miles, on an elevated region in the south.

There are a thousand beauties to be seen here which it is impossible to describe. My senses truly become overwhelmed with crowding sensations while gazing on these wondrous works of God, but I cannot describe them. In passing, we again peep down into the depths of the yawning chasm at the west end, belching forth its dense clouds of vapour, and follow with our eyes through the blinding brilliancy of the rainbow the boiling, roaring, dashing, splashing, gushing, gleaming, bounding stream, and exclaim, "How beautiful!" "How terrible!" These rainbows, seen from a distance of about two miles at 4 P.M., their depth being then very much enlarged on the rising spray, impart a most startling effect. On observing it for the first time from this point, it looked so much like sulphurous fire issuing from the bowels of the earth, that I was on the point of exclaiming to my companion, "Look at that fire!" The many streams of vapour flying fast upwards through the broad and vivid iris of the rainbows looked so like flames that even I was, for the moment, mistaken. We passed the Three Rill Cliff and came again to the first extensive fall of water. Here the stream, pouring over the edge of the precipice, tumbles like gigantic folds of snowy drapery. I have never seen anything with which I can compare it. Here green, there convolute streams

pour down in heavier volumes, leaving behind in their flight a thousand comet-like particles of spray. Here, in the morning, the placid element in the background shines like polished silver beneath the columns of smoke, and the sudden curl of the water over the edge of the black-looking rock sparkles to the rising sun like a string of diamonds.

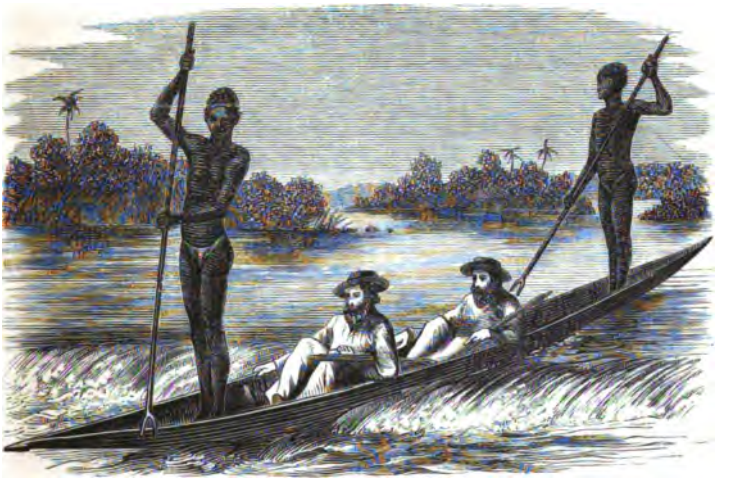
The outlet of the river is perhaps one of the prettiest and most comprehensive views that one can get. It is one of the places where I wished to place my camera, as, although in the foreground, no large body of water falls, and the view being pretty free from spray, the various effects can be seen and studied to much better advantage here than elsewhere; particularly the comet-like appearance of the falling water, shooting from above, while the lighter rills leaping over the top are dashed against a projecting rock, and fall like an irregular chain of meteors—here like damask, there like the finest snowy satin fibres, torn into shreds, or like fantastic wreaths of smoke dissolving into thin air; or into such an aerial gossamer-like aspect as to defy all description. Here and there a deeper channel has been worn, down which a larger body of water falls into the basin below, again to rebound, boiling, to the surface, over which roll swift volumes of smoke from the falling mass, puffed out like a great discharge of musketry, and enveloping the scene in an aerial misty shroud, through which the oblique rays of the sun are seen in dim and ever-shifting perspective. But while watching intently to catch every charm of these Falls, it vanishes on the instant. The view is always changing, yet ever recurring. Creep again to the uppermost pinnacle over the outlet—a giddy height—and peer into the crack to the right and the left; here large, heavy, fleecy masses chase one another down like phantoms chasing phantoms, and then dissolve into thin air before they are overtaken. Wherever

the large broad masses fall, the height does not seem so stupendous as where the streams are smaller. The latter fall here in sparkling torrents; there in smaller rills, like the tails of snow-white horses: here like silvery threads, forming sometimes a network against the black and sloping rocks; there, leaping from shelf to shelf, they are dashed into successive tiers of sparkling jets, delightful to look upon. Here, to the westward, stands a tree or two on a particle of rock, which seem as if they might be washed away by any flood; and there, to the eastward, inclines, amongst others, a rock in the same predicament, leaning over the very brink at an angle of 45°. Beyond the angle of the outlet the Falls still extended for a quarter of a mile east, and two pretty views can be obtained from this pinnacle, both east and west; but the view at the extreme east end is at length cut off by the obtrusion of the opposite headland, which is only connected with the mainland by a very narrow isthmus. This headland is overrun by a profusion of vegetation,—a few date-palms, apart from a compact and green forest, look like aloes, so diminutive, viewed from the east end; the waterfall beyond that becomes more sloping than elsewhere (except the Leaping Water at the west end), and the body of water not so great, leaps slowly over a sloping bank of jagged rocks, forming innumerable jets as it goes bounding from rock to rock to the bottom, and then flows westward to the outlet, where it is joined by the greater flow from the west, and by which it is overpowered, and a portion of it driven back, waltzing round before it can escape from its confined sphere. Thus, bit by bit, this extensive fall must be seen from different points of view; and, although the body of water is not very great just now (the river having lately fallen seven feet in depth), still the scanty supply, I think, adds to instead of taking from its beauty.

When the river is full, these Falls may be more terrible,

but I can hardly think more beautiful; for I fancy when a larger body of water comes down, everything must of necessity become obscured by the increase of spray evolved from so very narrow a chasm. As it is at present, nearly half a mile of the Falls cannot be seen; but there is quite enough to admire, and perhaps even, as far as beauty and scenery are concerned, to eclipse Niagara. Nothing can be more delicately beautiful and pleasing to the eye than the milky streams, broken at the top by dividing rocks, and widening to the base, pouring down in one unbroken flow of snowy whiteness from a height of upwards of 300 feet. Little juvenile cataracts steal quietly aside, as if fearful of the overpowering crush of the great ones, and these skip and sport down the greasy steps from rock to rock, while long, downy, snowy streamers, sometimes thick and voluminous, at other times light and airy, are swayed and wafted to and fro when the wind finds an entrance at the narrow outlet of the mighty river, which, from the breadth of a mile or more, is here condensed into the narrow space of from *thirty to fifty* yards, or even less, then flowing out near its eastern extremity between high cliffs, running away to the west, and nearly doubling upon itself, then back again to the east in a very compact zigzag manner for about five miles, finally turning away to the east. The stream pours playfully into this narrow rent, sending up volumes of spray, and the waters from the base flow westward, and, meeting there the greater body of water from the west, which here slackens its speed before the entrance, steals slowly round, at the solemn pace of a funeral procession, before it escapes from its confinement between the massive columns of rock. A large semicircular gap having been broken away in the bank of the river forms a large, shady, almost cavernous, enlargement, in which the deep, dark waters quietly eddy about, then dash up against the rocky shore, which drives them foaming and

hurrying backwards. From the very farthest extremity of the Fall, at the east end, it comes down a sylvan valley, winding around a richly-clad mass of rock and earth, and facing a basin in which it is plain to be seen. An easy descent may be made to the eastern bank of this basin, but no farther. Beyond this, only baboons, of which we often meet a troop of several hundreds, may roam. Two large



VOYAGING DOWN THE ZAMBESI.

rainbows are here visible in the afternoon, like those at the west end.

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Wishing to see the famous "Garden Island" of Dr. Livingstone, we got a boat at Mashotlaan's, and sailed down the rapids, under the mentorship of the head boatman, named Zanzela. He is a famous harpooner of hippopotami, and knows apparently every rock, crevice, and eddy on the stream above the Falls, and his business is to take persons there. He took Dr. Livingstone and Sekelètu, and now ourselves, in a very small canoe, kept for the purpose. It is a

long, narrow, and very rickety affair, round as a ship's mast, and narrow at the top, the least motion of the body seeming capable of upsetting her; and in this vehicle we were obliged to jam ourselves, squatting in the bottom. We had not gone very far before the water, stealing into our leaky bark, gave us a very unpleasant cooling; but we flew rapidly past the numerous and pretty islands, steering a most intricate course through projecting rocks and whirling eddies, our pilot always keeping our canoe in the midst of the strongest stream, for fear of having it dashed to pieces or upset. On the islands, as we passed, I noticed the elephants had everywhere been committing their depredations, destroying numerous trees. These islands are their favourite resorts, abounding in fruit and other trees, of which they are very fond. They come regularly to pick the wild dates and almonds, mokachoñ, and the many other fruits that abound, and, with the sagacity of a man, coil their powerful trunks round the stem of the palm trees, to shake the clustering fruits to the earth, not being able to break the tree. I have never seen one broken or overthrown, slender as they appear.

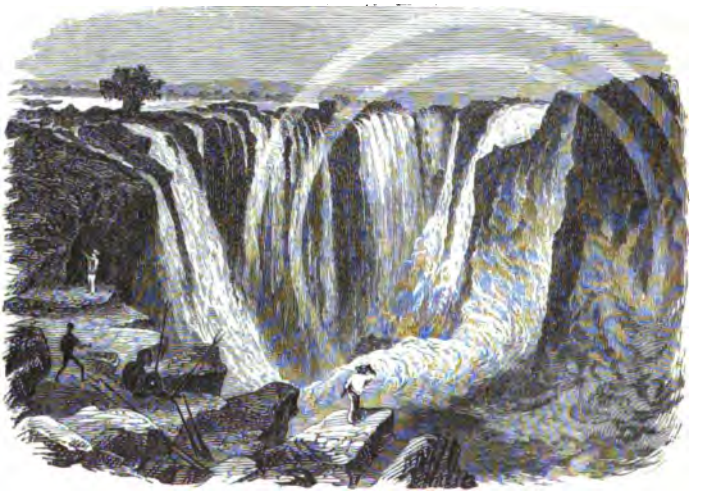
To return to our voyage. It was a very nervous one to me; sometimes we shot between projecting rocks with such velocity as to necessitate the constant watchfulness of Zanzela, who stood on the look-out with his paddle, or a long pole, with a stroke of which (resembling stirring with a spoon) he guided us safely through a variety of very unpleasant-looking localities. As we approached the edge of the precipice, I confess to a feeling of uneasiness about the swamping of our boat in the rapids, but consoled myself with the reflection that life was just as sweet to our guides as to ourselves, and satisfied myself with their apparent confidence. Away we went, steering in the strongest flood, sometime shooting down the rapids at railway speed, straight for the chasm, not without speculating on the probable consequences

of a capsize at this moment. "Can anything save a man once sucked into the stream?" I do not know; but the boat was made to leap out of it with delightful ease, into a smooth little creek about eighty yards from the brink of the Falls, and on the east side of Garden Island. I should remark that on sailing down the river, one ignorant of the fact may approach to within a very few yards of the edge of the Falls, without dreaming of being on the verge of such a chasm, owing to the strange and mysterious manner in which the whole stream, of upwards of a mile in breadth, has suddenly disappeared before the eyes, vanishing as if it had been swallowed by the earth. In all falls that I have seen, a perspective view of the water below has always been visible, but there is nothing of the kind here. You see land before you, on your own level, which seems as if springing out of the stream on which you are sailing, and proceed in utter unconsciousness of the danger ahead, discovering at length that it is on the opposite side of the rent. But for this circumstance the Victoria Falls, presenting one unobstructed view, would not alone have been the most magnificent, but the most stupendous, sight of the kind on the face of the globe.

Having landed, a few steps more brought us to Dr. Livingstone's garden (a small circular enclosure of strong stakes in the ground), but the hippopotami had lately broken into it, and devoured all the grass; the last flood had been over it, and, according to the boatmen, destroyed everything. The next thing we saw were the initials, "D. L., 1855," and again, "C. L., ↖, 1860," carved on a tree; and then we emerged on to the rock overlooking the chasm, the Zambesi pouring down on either side of us, and drenching us with descending clouds of spray.

From the edge of Garden Island the Zambesi Falls may be seen to greater advantage than one would imagine; for

although only one view is visible, it is a very grand and imposing one, almost more so than any other. A large mass of rock, having at some time or another fallen, has broken away an angle on the east side of the island, which has so far widened the crack that one gets a very clear and tolerably comprehensive sight of one of the largest bodies of water, falling to the very bottom, although the distance is rather foreshortened; also a very good perspective of the



VIEW LOOKING EAST FROM THE GARDEN ISLAND, IN THE MIDDLE OF THE FALLS.

prolongation of the Fall, beyond the angle of the outlet. The large masses of fleecy waters rolling continually down the perpendicular rock, the soft grey ringlets curling aloft, and the sylvan vegetation around, illuminated by the prismatic colours of two nearly circular rainbows, contrast wonderfully with the frowning wall opposite, which here looks more terrible than elsewhere, in spite of the misty veil which somewhat softens its sternness towards the outlets. It is a giddy height from which to look down to the bottom, where the green and foaming stream, writhing and

struggling to escape, rushes past with great velocity, "*charming the eye with dread,*" the crested waves vying with each other in the race. But they have never been strong enough to wash away the débris at the bottom, which lies seemingly where it fell, just below the triangular break in the top. To the westward of Garden Island, the crack being very much narrower, the spray emitted is so great as perfectly to obscure the view; and the rock is so slippery, owing to the fungi, and a sherry-coloured polype growing on it, that it requires the greatest care to approach the brink. While busy taking some angles with the compass, and spanning a line for a base, my feet slipped, and I came down flat on the rock; I was very thankful that I was several feet from the edge at the time.

At the Falls, water boils at $207\frac{2}{10}°$; thermometer, 67°; approximate height, 2460 feet.

I have now been labouring hard here for a fortnight without getting a decent picture, owing to various difficulties, of a most provoking nature, with my chemical apparatus. Baines, in the meanwhile, is industriously engaged in making sketches from various points of view. In this state of affairs I was offered a boat by the chief, if I wished to go sea-cow hunting; so, leaving Baines here, I went up the river with some natives as far as Kalai. Passing up in the middle of the stream, between two islands two or three miles in length, we observed a troop of hippopotami rising at intervals to breathe. As we approached them they gave their loud startling snort. We at first approached them, thinking to get a shot; but as they proved very wary, and I was in expectation of seeing some asleep out of the water, I did not fire. As we advanced, before us were little islands densely covered with vegetation. The banks were everywhere defended by the roots of trees, spread like a boarding-

net around, so that when behemoth has made a path there is no access but over the ladder of roots, seven or eight feet high, from beneath which the sand has been washed away. The graceful, drooping, bright green date-palms (*Phœnix violenata*) mingles its foliage with the willow, which bends over the stream, "stooping as if to drink;" the dark form of the motseara is conspicuous by its cypress-like aspect; the doum-palm (*Crucifera*, or *Hyphæne thebaica*), with its black trunk, radiating crown, and recurved leaves high up in the sky; the mokuchoñ, motsebe, moporotla, and many other magnificent trees, not forgetting the burly baobabs towering above all. These form a magnificent landscape, the centre of which is a foreground of smooth water, a mile broad, with one or two small clusters of black rock, on which the cormorant stands, "its black and dripping wing half opened to the wind." A fallen tree, near the right bank in the foreground, peeps again from either side of the pretty islands, and in the extreme distance the hills become lower, and of a bluish-purple tint.

Let the reader figure to himself a canoe, holding three persons, in the foreground, gliding with stealthy strokes to a quiet nook in which five or six small black spots are seen floating on the surface. These are hippopotami. On a nearer approach down goes every one with a splash, and now, with desperate stroke, our canoe is urged across the stream for two or three minutes. We halt opposite the spot where they disappeared. Some time elapses, and I fear they have gone off; but a startling snort close by makes me look round, and here, staring me in the face, with the most inquisitive wicked expression, a hippopotamus shakes his red ears, puffs the water through his red nostrils, and, with a loud, gruff, inquiring grunt, which seems to say, "What do you want here?" disappears with a splash before my gun can be brought to bear upon him. In this manner, one

after the other, they pop up and down. My aim is changed from one to another; but before I can pull the trigger they have dropped under the surface, and my arm at length can hold the rifle no longer in the air. But as I must rest, the hippopotami also must breathe; up goes the gun to the shoulder again, while up and down pops one head and then another. At length a loud and re-echoing report bursts over the water; this time behemoth is struck, and the purple tide rolls down his massive neck as he rises from the flood, plunging and ploughing the waves with distended jaws in a most furious manner. Woe to any beast that now comes in his path! The smell of blood has created a sensation amongst the amphibious group; they disappear again, and all is silence and expectation for a quarter of an hour. Then a distant, almost inaudible, snort is heard, then another, and, looking a mile or two off, we detect them, and again give chase. Three or four shots fired under the same circumstances convinced me at length that one of these animals at least must have been killed. I heard the bullet strike him on the temple, and, opening wide his mouth, a few ripples alone remained to indicate where he had sank beneath the stream.

Next day I returned in the same boat, and, coming near the spot where I had shot the hippopotamus, I found it had drifted up against a submerged shelf of rocks; where, leaving people from the banks to look after the flesh, I proceeded farther up the river in search of new sport.

We entered the rapids at Kalai, in which, to judge from their appearance, I had no idea a canoe could live. Sometimes the men dragged her through between sharp, projecting rocks; but the first rapids passed, we rounded a small island, gliding close under its side. I was not thinking of sea-cows then, but suddenly there was the sound of sticks and branches crushed behind the reeds on the bank, and then a

rush towards the water. The boatmen were pulling hard to get past the danger, and in another moment I thought the huge monster would have leaped into the boat. Indeed its plunge, within two feet of the bows, fairly lifted us three feet into the air, and nearly filled the boat with water. The men now tried to stop the boat, but she had such way on her as brought us right over the animal, and we expected every minute to be dashed to pieces, but the beast had been carried down by the swift current, and protruded his head some distance off, and we passed on. Within 100 yards was another islet, and the boatmen, observing a number of young snake-birds in their nest, were in eager consultation how to take them. Pulling to the bank, they were in the act of climbing the matted creepers overlacing it, when a grunt was heard close before us, and we found that we had entered a creek which was the path of the hippopotami, and here they stood before us, visible through the bushes, in the act of rushing towards us. I could not see plainly enough to shoot, but in another moment they changed their course, retreating to the side of the island, and plunged into the stream by another path. While my men were watching the others, one huge fellow audaciously popped his head up behind. In an instant my bullet struck him in the temple, and he rolled over and over, carried along by the rapid stream. His dying struggles were tremendous; but still he gained the creek in which we were, and we had to get out of the way, while the huge monster lay on his side in a shallow, breathing his last. To make doubly sure, I gave him another shot. I could not prevail on the rascally boatmen to drag the carcase to the south shore of the river, though we were within a few yards of it; and not until I threatened to pitch them out of the boat did they make any attempt at all —but one which they intended should fail. I was in their power, and they were not going to place the meat out

of their own reach. I had to give up the point, and, heartily disgusted, I determined to shoot no more in the river, but to return to camp.

Of the first sea-cow I had given Mashotlaan two-thirds, and my friend Umboopo a portion, keeping the smallest for ourselves. I now gave orders that the flesh of this one should be brought to camp, as it was wanted for my people. My boatmen were well off, too; and though, according to their own account, they never begged of white men, because they knew we did not like it, and never forgot the poor blacks, they took good care to help themselves. Instead of bringing the flesh to our camp, I heard in the afternoon that they are taking it to the other side of the river, and Madzakaza, Baines's old acquaintance, was crossing in a new canoe with some of the stolen meat as his share, when a sea-cow, doubtless smelling the flesh, in a fit of rage tossed the boat over, the men getting out of his way by diving to the bottom. The brute then seized the boat in his mouth and bit it in two. Fortunately I had just sent one of my people across in another boat to get some milk. This had just reached the shore when the accident happened, and, being ready to put back at the moment's notice, it picked up the exhausted swimmers. Madzakaza did not make his appearance afterwards. The meat never came at all, nor any portion of it; nor did Mashotlaan show himself for some days, and then first told me the crocodiles had eaten the sea-cow, and then that it was so poor he would not bring it to me, but gave it to his dogs. I was astonished at his impudence, but, reflecting that Sekelètu's assistance was of more importance than the meat, I suffered the affair to pass without comment. Bechuanas have the coolest way of robbing you under the guise of friendly ways: to appropriate your property is to give a proof of the confidence they place in your willingness to serve them, which they conveniently assume.

2nd August.—Baines went over the river again to sketch, intending to be back at night, and the guide, Wildebeest, crossed over also. Neither of them returned for several days, nor did we get any tidings of them. This caused some alarm in the camp, our Bechuanas declaring that we should never see either of them again, and that we had best pack up our things and get away. The Makalakas were of the same opinion, declaring that the Makololo were great rogues. "Whenever," it was said, "they get anybody over the river, they keep them there as long as they like, even for a whole year; they knew them of old." Indeed, my people showed so much uneasiness that I feared they would decamp during the night, and I had to keep watch over them.

At length, on the third day, towards sunset, a canoe crossed from Baines, setting all of us at rest. But for this, and his own arrival at dark, I fear every one of my followers would have decamped. They are perfectly aware of the practices resorted to by these Makololos, who would have liked nothing better than to create a panic amongst my people, inducing them to leave me at their mercy, in a most helpless condition.

On the 6th I had some native meal cooked for breakfast, after eating a few mouthsful of which I became very ill. I had recourse to some simple remedy, and strolled out with my gun, as our people were getting very hungry, and feeding them on milk and corn, at the high rate it cost in barter, being a serious affair. I shot a koodoo and a pallah, but was hardly able to crawl back, and I lay all night and the next day in torture, suffering the most excruciating pains. This is the second time I have been attacked here with this mysterious complaint, which may be attributed to bad food; perhaps to its not being sufficiently cooked; but knowing the villany of the people hereabout, I had also strong suspicions

of poison, to the use of which, when it serves their purpose, the natives appear to be singularly addicted.

We had shortly afterwards another visit from Mashotlaan. He told me that if I wished to buy a little boy or girl, he could accommodate me, but that the ivory trade was quite monopolised by Sekelètu, who bought guns with it. "But we," said he, "who have no ivory, can only sell our slaves if we want to buy cloth from the Mambari." *

Speaking of the reptiles of this country, we learnt from Mashotlaan that, the day before, one of his maid-servants, a girl of seventeen, whom I had seen at his house a few days ago, was taken by a crocodile, while dipping water near his village. This occurrence he did not deem of sufficient importance to have communicated to me, had not the casual conversation on crocodiles reminded him of it. "Yes," said he, "she is gone, and taken all my fine beads with her. Oh! I wish I had the beads back again!"

I noticed, while walking the other day, that one of my men picked up quantities of almonds, far away from any signs of the tree. On inquiry I found they are dropped in the excrements of elephants in an undigested state, and the natives tell me that by following, at this season, on an elephant's spoor, they can always obtain a sufficient quantity for a meal in a short time. I noticed that, wherever the elephant halted, they found from a dozen to twenty or thirty.

8th August.—Sebezu, a Botlapean from Kuruman, arrived; he brings a message from the Rev. Mr. Price, to the effect that he hears his things are all at Linyanti, and they are to be kept there until he comes; he and Mr. John Moffat being desirous of establishing a mission somewhere at the Falls. By this messenger, my kind and venerable friend, the Rev.

* Slave-traders from the Portuguese settlements. See Dr. Livingstone's "Missionary Travels."—ED.

Mr. Moffat, of Kuruman, sent me a note informing me of the death of the Prince Consort; also of the fate of Bishop McKenzie, and the Rev. Mr. Barrup, on the Shire river. The excellent missionary's note, though, with a single exception, it announces nothing but calamities, is very welcome, being the only letter or news we have received for eight months. I do not know how this news will operate on Sechelli's demand upon Sekelètu for the deceased missionaries' effects. Sebezu says that Sechelli has not been employed to interfere in the business; but perhaps this chief, as having first introduced Dr. Livingstone at Linyanti, considers himself bound to interest himself in missionary affairs there. He may, however, being a great politician, be merely actuated by the ambition of giving himself importance—in the opinion of the tribes. Sebezu has brought two horses and a saddle for Sekelètu, which he says were sent by Dr. Livingstone. Some traders have accompanied him from Kuruman, but no one brings any letter from Cape Town.

9th August.—Leaving Baines at our bivouac, I went in search of game. It was excessively hot all the day. I was three times nearly overrun by black rhinoceroses, of which I saw six, and only wounded two. Following the spoor of one, I fell in with four buffalo bulls; killed one and wounded a second, which, owing to the lateness of the hour, we could not overtake. I suffered very much from the soles of my shoes being worn through with the sharp rocks, my feet becoming so sore that I could hardly walk. In the hurry at leaving our camp at the river, I had forgotten everything contributing to comfort, such as plate, spoon, knife and fork, or drinking vessel. How, under such circumstances, do we fare in the bush or in the veldt? On this occasion our followers scooped out a little hollow in the ground, which they enclosed with twigs, and lined with grass to keep the wind out; a quantity of clean dry grass was also spread

under my blankets. I drank out of a calabash, and my Bushmen, having measured the size of my mouth, cut a piece of hollow bark to suit it; this was my spoon. An assegai answered the purpose of a knife, a pronged stick did duty for a fork, and I sat at the foot of my bed, with the firelight for a lamp, enjoying my dinner after the toil of the day. My men stayed up late, feasting, smoking, and cutting up the meat into strips, and then lay down like myself to take their rest.

I noticed here a bright scarlet glowworm, emitting a very brilliant light—so bright as, placed within two inches of the amber mouth-piece of my pipe, to render it quite transparent at night.

The Masuè river comes from the south-west as far as I have followed it, about 15 miles. One stream, which flows into it from the west, takes its rise about five miles from the spot at which we crossed; another joins it from the south, a little higher up. This latter, called Keyzie, seems to make a turn from the direction of the wagons. On the whole this is a good country for farms, from Daka eastward, and to the south of the Zambesi. It is full of beautiful fountains, and much land fit for tillage. But for the "fly," I have no doubt but that it would, at some distant period, be occupied by the Boers, as it ought, one would think, to be pretty healthy from this neighbourhood to Sinamani's.

With respect to the "fly," I imagine that when guns are introduced, and the buffaloes driven out, the "fly" will follow, as the insect seems to be particularly a parasite of the buffalo. I do not think that they deposit their larvæ on any other animals. The Makalakas, living in the "fly"-country, say they deposit their larvæ in the dung of the buffalo. I have an idea that both that animal, and the eland, might be made subservient to the use of man; and if the African elephants were ever to be tamed, there would then be no lack

of domestic animals for all purposes. Sheep and goats thrive in the "fly," so do asses. Quaggas might also perhaps be made useful. There must be means of making all these animals serviceable; but the fact is, it is not worth anyone's while to waste time and expense on experiments of that kind, when cattle and horses are so abundant and cheap in South Africa. If ever white men should occupy these parts, they will be obliged to exercise patience and ingenuity, either by dispersing the "fly," finding an antidote for its bite, or training a new breed of animals indigenous to the country.

Next afternoon I started for our camp at the Zambesi. The rhinoceros had been cut up, but the flesh was so putrid that it was not eatable. A quick march from 2 o'clock till sunset brought us to the camp. Our road lay over broken and stony ground. I saw some wild pigs, pallahs, and water-bucks. Wild pigs, or boars, are plentiful in this country. The soles of my feet are very sore, as I must have walked above 40 miles over sharp stones since yesterday morning. Next day Baines and I took a walk down to the Masuè, to see whether it falls into the Zambesi, but we were prevented, by various obstacles, from reaching the supposed point of junction.

12*th August*.—Early in the morning we were visited by Mashotlaan and Umboopo, who came together. We set our breakfast before them, which they soon demolished, and then we went across the river to Umboopo's village, as I wished to secure a new antelope, which I have long been trying to get on the Teougé. It is very like the lèchè in shape of body and horns, but the colour seems not so tawny, but darker or redder. Baines and I each shot a pallah; and although I succeeded in knocking over a beautiful male poku, it was not many minutes in getting up again. We had gone to Umboopo's village, much preferring his hospitality to Mashotlaan's. I had a small present for him, which I

wished to give him privately, so as not to excite the envy of Mashotlaan. I flattered myself in the morning my little manœuvre for the purpose had succeeded, but I was no match for his wily brother, Mashotlaan, who detected me in the act of having the beads presented. Umboopo did not beg for anything, and seemed very much concerned when his wives showed the least disposition to do so. He desired me to stay for the night, and sent over for my blankets, a distance of three miles, Baines having ferried home, as it was necessary that some one should stay at the camp, lest our suspicious followers should take alarm and run away.

Umboopo's village is situated on a beautiful spot, amidst a perfect orchard of magnificent wild fruit trees, patriarchal mokuchoñs, motsentselas, and less magnificent motsèbes, umbala (a kind of peach or nectarine), wild almonds, and several others; also a smaller dull-green fruit tree, called in Natal an orange, and the seeds of which contain strychnine. This fruit is of the size of a large orange, with a hard rind. It is of a yellow colour when ripe, and has a delicious odour. The seeds contain a good deal of strychnine, but they are not eaten by man. Elephants, however, eat seeds and all in great quantities, but pass the seeds in an undigested state. Here, with his corn-fields around him, and his orchard at the back of his village, overlooking the Zambesi, lives Umboopo. He is not a chief, though looking much more like one than Mashotlaan, but merely a private individual. He keeps a few cattle, sheep, and goats here, which are kraaled in, in the middle of the village, in a large circular enclosure, made with stakes planted closely round. About this enclosure, at the distance of fifty or sixty yards, is the khotla, a semicircular court, made of the same material, and then several scaffolds, or stages, on which meat and thatch and many other domestic articles and implements are strewn, and near these, in a

semicircle, joined together by high, neat, and compact fences, made of reeds, are Umboopo's own houses, or rather his own and those of his four wives. Each of these dwellings comprise a circular enclosure, containing from four to six houses. The walls are made of straight poles, planted perpendicularly, and plastered over with clay. The roof is of conical shape, also clayed and plastered inside, and thatched over. The largest and finest of these huts is the dwelling-house of the mistress, with a cool verandah, surrounded by a wall two feet high of clay, very smoothly plastered. The whole floor of the enclosure is plastered every morning, and smoothed with a round stone. There are generally two, three, or four rooms in each house, forming a series of circular walls, one enclosing the other, the inner one of all being generally used as a store-room for beer-pots, jars, tools, and other implements and utensils. They sleep in the one next the verandah in winter, but in the summer retreat into the inner one from the mosquitoes. The entrance is by a small round passage, which is closed at night by a door made of reeds sewn together. The inside walls of the houses are decorated with spears, shields, beads, and the ornaments of the ladies; and the circular walls have a hollow shelf all round, on which innumerable things are kept. They have no fire-place in the huts, but when occasion requires they bring a little fire, or charcoal, in a broken pot. They have clean mats, on which they sleep at night, or recline during the day. Of the other huts which form the enclosure, two or three belong to their maid-servants, of which they generally have a number about them, and are not on such a grand scale as that of the mistress, the diameter being half, or about ten feet. Another large and important hut is the granary, neat and cleanly made, like a dwelling-house, containing large baskets full of corn, millet, earth-nuts, beans, &c. These baskets, which are neatly plastered, look like large bottles, and contain sometimes

several hundredweight of grain each. Here are to be found beer-pots, hoes, pegs for stretching out hides with, and all sorts of rude tools and instruments. In the centre of the village, near the khotla, there is also a large circular shed, in which the young male slaves sleep when it rains. Somebody is always supposed to keep watch at the khotla during the night, and a fire is always to be found burning there night and day.

Another house is used as a pen for kids or lambs, and another is a fowl-house. They have a breed of very small fowls, like bantams: many of these latter, I know for certain, lay two eggs per day. But Umboopo has a very large fowl, which he got from Linyanti, and which belonged to and was introduced by the missionaries. The women, or slaves, are at this time of year gathering large bundles of dry grass, with which to re-thatch their dwellings before the setting in of the rains. Everything appertaining to building, agriculture, and all the more laborious works, are conducted by the women. The men look after the skins and dress them, or rather they see the slaves do it, for here, in this country, they have plenty of slave-labour. The hides of cattle they stretch to the utmost extent, and peg it out on the ground, with a few hundred pegs, kept for such purposes. When dry, it is damped with warm water, scraped by half a dozen men, with the same number of sharp little adzes, to less than half its usual thickness. It is then damped again, and scraped dexterously all over with several bundles of large iron pins, until almost all but the cuticle has been cut or rasped. It is then dexterously rubbed with the hands until it is as soft as cloth.

A good many cattle are constantly dying here of the murrain, which has been prevalent in this country, they say, for many years. They call it *enteriman*. On the whole the Makololo may be said to enjoy a good deal of comfort. The

females here do not work so hard as Bechuana women in other parts do, owing to the number of slaves they possess. They recline all day, at this time of year, on mats within their enclosures, and pass their time in indolence, only rousing themselves occasionally to drink beer. Resting one elbow on the ground, the face is supported by the hand; in this attitude conversation is conducted. Their goats and sheep and dogs have more comforts than with any other tribe that I have seen. They still deal in slaves; only the chief, Sekelètu, sells the ivory, but Mashotlaan told me that if they (the people) wished to buy anything, a rug, or a piece of cloth, &c., they could sell their little boys or girls, but not the ivory, as all that belonged to the chief. Mashotlaan tells me that two of his children died of leprosy. It seems to be very common here.

The real Makololo have a manner of tattooing themselves with needles, like sailors; but they all seem to have the same patterns drawn on the face. A straight blue line down the forehead, a semicircular mark diverging from it over the eyes, and another under them, and the face generally divided into sections. The Makalakas, their slaves, tattoo by puncturing cicatrices with a knife through the skin, marking out figures on the back, breast, and belly, like the open-worked collars which ladies wear.

Before parting with the Makololo, a few remarks on the trade in this part of the country may not be out of place. It might be supposed that a large and powerful tribe, living in so remote a region as they do, would seek by all possible means to secure the monopoly of the trade in fire-arms and ammunition. That they have abundance of ivory for the purpose there can be no doubt; but since the accession of Sekelètu, who has conceived such an exaggerated idea of the value of ivory, no business of importance has been transacted, and, since 1853, trader after trader seems to have come and gone away in the greatest disgust. With the Mambari, or

Arab, traders they get on better, buying a great many cheap American and other muskets, which seem to be made with a special view to their bursting. These they purchase for less than the price of an English musket; but the Mambari care not for profit on their trashy guns, which are merely intended as a cover for the more lucrative trade in slaves—a few cotton handkerchiefs being the price of a boy or girl. I cannot see how the opening of roads east and west will do these people any good while they continue to maintain their arrogant and unconciliating conduct to strangers. It behoves them, living so remotely as they do, to offer the inducement of an advance on the prices paid by nearer tribes for fire-arms, &c. Instead of this, they presume on their independent position, and greater power to coerce the unprotected traders into parting with their goods, even at a loss. They are very fond of quoting, as a criterion, the prices of the things at Kuruman, expecting apparently to get them on the same terms at a farther distance of so many hundred miles in the interior.

There is, doubtless, some opening for an abundant and profitable trade with the east coast, up the Kafuè and intervening country, but, under present circumstances, it seems to me a mistake to suppose that Sekelètu's tribe will derive any benefit from the trade from either the east or west coast. Traders from the south have abandoned the market. The Makololo are living at the present time in terror of Moselikatze, in the most unhealthy swamps in Africa, and dare not move eastward for fear of their lives; to the south of the river they are never seen. The "fly" surrounds them, so that their position is a completely isolated one.

Baines and I each shot a pallah, and then returned to sleep at Umboopo's house. His four wives, with a number of slaves, were all day busy stringing the newly-acquired beads, of which they seemed very proud. A pot of beer was placed

before us, but of this I dare not partake. I have not yet been able to acquire the taste. Umboopo's women are very inquisitive about my wives and children. They cannot understand that it is reasonable people should only have one wife, and asked me whether the ladies in our country built their husbands much finer houses than these, and whether they had large fields of corn to cultivate; they were evidently unable to comprehend the conditions of social life which were implied in our answers to these questions.

A pot of sour milk was placed before me, and one of the old man's wives proceeded to make porridge of very fine flour. The milk was very rich and good, and the cream was, of course, a great improvement to the porridge. We had never been able to cook the flour we got here to our own liking. I took notice of the manner in which they did it, in order to introduce it into my camp. A pot of water is made to boil over a brisk fire: a large handful of flour is then poured in and stirred with a pronged stick. Afterwards, a little more is added, and the stirring renewed, and so on, until it is nearly of the desired consistency, and then it is kept cooking until it smells of burning. Coarser meal would take a much longer time to cook, as their corn, a flat kind of *Holcus sorghum* peculiar to the river countries, is much harder than our wheat or the other Kaffir corn.

At night Umboopo, his wives, the strangers, and his slaves, all met in the khotla. Pots of beer and strips of flesh were discussed round the fire. Inquiries were made of me, jokes cracked, and I had an opportunity of hearing the genuine opinion of the Makololo respecting white men. They seemed to like us very much, regretting some defects, but, on the whole, Umboopo came to the conclusion, which he communicated in a whisper to his wives, that we are *Mutu féla*, or human beings, having small hands and feet, very little mouths and noses, but the want of colour was a defect which spoiled

us altogether. I should have mentioned before that during the day I was importuned by the women to take off my shoes and socks, to convince them that I had toes; nothing would satisfy these inquisitive ladies but ocular demonstration. "If they have toes," said they, "where do they keep them? for they are not in those shoes." On condition that nothing further should be exacted of me, I complied with their request. They wished also to feel my hair, to satisfy themselves that it was not a wig made out of the tail of a gnu.

I slept in Umboopo's own hut, he taking one side of the largest apartment, I the other. New and clean mats were spread. The hut was very clean and pleasant. Umboopo and I did not go to sleep until very late, as we were talking over the history of the tribe, and brought it down to the time of the missionary disaster at Linyanti. I spoke first on this subject, and Umboopo told me that the seizure of the missionary property was due to a Batlapian teacher who accompanied the party, and who, on the death of Mr. Helmore, assured the chief that it was customary for the chief of the country to become the heir of the property of the deceased, as their friends and relations would have nothing to do with it. This is a very poor subterfuge to shelter Sekelètu's rapacity. It would have been as well had he inquired from Mr. Price his opinion on the subject. Others say the things were bequeathed him by the missionaries; but this is simply absurd.

15*th August*.—A messenger came from Linyanti, having been sent by Sekelètu to learn what goods I have for trading. But I have come to the determination not to enter into any further traffic with these people, on terms so disadvantageous as those which alone they offer. However, the chief has paid no regard to my request for boatmen, and as all my efforts at photographing the Falls have proved complete failures (from some cause inexplicable to myself), I have resolved to

turn my back on this locality. Baines meanwhile has made numerous sketches of the Falls from various points of view.

We accordingly set out for our wagon, and, sleeping at the Masuè river, reached it next day, after a march of about 18 miles. On the way we fell in with the wagon of Mr. Reader, from whom we heard the first news we had got from the civilized world for nearly twelve months. The loan of a few

MIDDLE OF THE FALLS.

newspapers and books was a treat of which only those circumstanced as ourselves can appreciate the value.

19*th August*.—I went in search of a rhinoceros, the hide of which was necessary to repair an injury to the tongue of our wagon. About eight miles to the westward I fell in with a beautiful valley, bounded on either side by abrupt hills, 200 or 300 feet in height, and looking like the former bed of a wide river. Its course seemed to be from the northward, until, four or five miles south of this point, it assumes an east-

wardly direction, appearing to be connected with the valley which I have called Keyzie. There are fountains here and there in the valley; a rivulet winding through its midst contains water at intervals only. I came suddenly upon a troop of cow-elephants upon the edge of the eastern bank, and, not knowing that an abrupt and difficult descent was immediately beyond, I stalked and fired. The elephants, alarmed, fled, but exactly towards me, as there was no other escape for them. I had some difficulty in getting out of their path, and then my Makalakas ran after them like so many dogs, yelling, and driving them so fast that I could not overtake them again, though I ran three or four miles without stopping. The Makalakas get so excited on these occasions that it is impossible to control them. After this adventure, I fell in with two white rhinoceroses, both of which, with some trouble, I succeeded in securing.

In the afternoon I saw an eland, and, later, a large troop of buffaloes quietly grazing about half a mile off; but we had abundance of work before us, and also of good fat flesh, so that I postponed shooting at anything until I could attend to it. We slept in an open space near the path of elephants, and some of those animals appear to have approached within ten or fifteen yards, as we lay in happy unconsciousness of the fact.

Next day, before sunrise, I walked to where I had seen the buffaloes, observed some bastard elands or qualatas at the water, and, while waiting for them to finish drinking, that I might shoot one as they passed out of the valley, I happened to look back, and saw a large troop of 200 or more buffaloes grazing towards me. Altering my position, and facing them, I sat quietly in the grass until they were passing within eighty yards, and having selected the most beautiful-looking male in the troop, dropped him at a shot. The others fled over the hills to the westward, whither I followed,

chiefly with the view of looking at the country, and finding the spoor of male elephants. Cow-elephants had passed during the night. It is wonderful where the bulls could have gone to, as this neighbourhood seems full only of cows everywhere, and these are not worth the trouble or risk of following.

Having secured what I came in search of, viz. a piece of rhinoceros hide, and a buffalo skin, I returned to the wagon, leaving about six men to cut and dry the meat.

There are hunters spread all over the country now, from the Gwai river to the lake and the west coast, and, including in the calculation those hunted from Natal up the east coast, the destruction of elephants must be very great indeed. I have set my face altogether against killing cow-elephants, excepting when in want of flesh. At the present moment, and for the next month or so, I shall have no time to hunt, excepting perhaps one day in the week for meat, as I have a great deal of writing and other work to do. Besides, I am running short of lead, and must begin to economise severely. Ammunition is not a thing one can get from his neighbour in this country, owing to the strictness of the colonial law, which allows each hunter but a very limited quantity. I have to feed about fifty people with flesh, so that I expect the commodity will be very scarce ere long.

Two children recently kidnapped by the Bakwains (who have been largely engaged of late in the nefarious practice of child-stealing, in order to supply the demands of the Boers) have run away from their captors, and sought shelter with me.

CHAPTER VI.

Return to Daka—Native Honey—Adventures with Rhinoceros—Start for Sinamani's—Watershed—Reach the Boana River—Makalaka Singing—Native Smithy—Makalaka Customs—Ravages of Lions—Increasing Heat—White and Black Ants—Wasps—A Makalaka Village—Hunting Excursions—Various Species of Rhinoceros—Adventure with Buffaloes—Start again for the River.

25*TH AUGUST*, 1862.—We intended starting for Daka to-day, but the oxen came too late. I got from Mr. Reader some stores, such as coffee, sugar, rice, tea, &c., all of which articles we have been without for some time. I sent him two cows and their calves in return: sent all my trading stock to Inagnè. Next day we left Lupubupubu, crossed the Manyati, Chaporongo, and another river, and slept at the Bolungo, 10 miles.

I saw two rhinoceroses (*khetloas*). The horns on the one were of equal length, each two and a half to three feet. The animals are as large as mohogus. I wounded but could not overtake them; also saw twelve male buffaloes. They were asleep in the middle of a plain. Their heads, as usual, were turned *outwards*, and their tails together. Whenever they lie down they form this kind of compact circular phalanx, as a defence against lions.

I observed the Makalakas taking out a nest of honey to-day; it tastes similar to the tobo, but is made by a diminutive bee, which lives in the hollow trunks of trees. The combs are only a quarter of an inch thick, but very neatly made. The Makalakas call it massè. The tobo, a

kind of honey which is made by an insect or small bee in the ground, or in ant-heaps (in bulk), is here called monga. Another kind is deposited in trees by a small fly called nonongora. This fly is very troublesome, constantly attempting to alight in the corner of one's eyes. I have mentioned it before, but did not know it then as a honey-maker. None of these, excepting the real honey-bee, have stings, but the massè bites. The common honey is called nuchie. They have here four different kinds of honey.

The outspan at Bolungo river is on a small eminence under the shade of a fine mokuchoñ tree, a good spot for a homestead. This small fountain trickles out of the side of this mound. The river, coming from the south-west, runs below; on the opposite side is a stony hill, at the base of which a grassy plain slopes to the river, covering about 600 acres of beautiful arable land, over which the river may be conducted if dammed up a few miles higher. The hills at the back would form a beautiful shelter from weather, and a fine position from which to defend the town underneath. If ever this country is inhabited by white men, this spot will assuredly be made into a town. The river-water is as clear as crystal; every pebble may be seen at the bottom at the depth of seven or eight feet. Next day we started early, and after nine miles reached and crossed the Matietsie river. Saw rietbuck. Elephants had crushed some fine trees by the road since we passed.

On the 28th we trekked in the morning to the last water in the head of the valley of Pandamatènga, and saw wildebeest, tsèsèbis, and pallahs, all very wild. Also a troop of qualatas. In the afternoon we started for Boomka, and towards sunset saw a rhinoceros, which I stalked patiently for half an hour, to get a fair chance. At length I whistled to bring him round, and fired. He dropped to the shot, and at the same moment the back of my head struck the ground and my

heels went up into the air. I had overloaded my gun, and in consequence the shot was too high. Never trusting a large animal which drops to the shot, I ran in to give him another, but he struggled to his feet and wheeled round to meet me: I fired, and retreated one way, while my enemy did the same in the other direction. I followed until sunset, about two miles, and then abandoned him. On returning hurriedly to overtake the wagon before the darkness set in, I stumbled over another rhinoceros. This one I stalked most carefully, walking behind him until within thirty yards, when he emerged on a plain. I would not leave the slight shelter the low bushes afforded, and, holding my gun ready, whistled behind him. He turned abruptly, with a snort, but as soon as he presented a broadside my bullet struck him in the right spot, six inches behind the shoulder. I knew it was through the lungs, and that however fiercely he went off he would soon drop, which he did within a quarter of a mile. I found the wagon on the Boomka hill, outspanned under the large baobab tree, when I took the height. Water boils $205\frac{7}{10}°$; therm. 87°.

During the night we heard the wolves, the first time for a long while. We have not seen their spoor since we left Daka, all the way to the river, nor did we see any there. I do not know how to account for this, as at Daka they are numerous. They perhaps limit their range to the region where Moselikatze's warriors supply them with abundance of human flesh, which is generally to the east and south of Daka. It may be that they are shy of the river on account of the numerous crocodiles which lie by the edge of the stream during the night.

1*st September.*—Start this morning for Sinamani's, with one wagon; and as Baines is at work on a couple of pictures, and is not ready to go yet, he stays behind with one wagon to

finish them. Travel in the forenoon eight and a half miles to Ramagap's * old camp, near a beautiful stream called Chowè. The water is as clear as crystal; every little fish and pebble is seen as distinctly at the bottom as if they were floating on the surface. There are several aquatic plants growing on the rocks beneath that I have not seen before. In the afternoon we travelled 12½ miles, keeping south of a flat-topped hill, which is the watershed of the country. We crossed streams flowing south, and, going over a low hill not more than a mile in length, passed several ravines and nullahs winding north into the Matietsie river. Before sunset we reached the source of the Boana stream, where we found Snyman's wagon and a village of Makalakas.

Where my wagon stood there is a bed of calcareous spar, and within a mile north-east is a vertical stratum of sandy schist. The rest of the country is covered with angular pieces of hard, brown, basaltic rock, as at the Falls, with quartz crystals and zeolite. The low valleys have that rotten, crumbling, chocolate-coloured pudding-stone already mentioned, and the highest hills are covered with curious lumps of sandstone full of large cavities, pierced in every direction. Some of these stones are hard and flint-like, others soft and sandy.

On arriving at Boana, my first occupation was in superintending the progress of a hut which the Makalakas are building for me. On the 5th I walked eight miles north to the Matietsie river in search of game, and killed two buffaloes. The first, a solitary one, I stalked, and killed him on the spot. I fell in with a wary troop of 100 or upwards, which detected us at a distance, and fled, so that I could only get a long snap-shot, but I wounded one so severely that he left the troop at once, and then I killed another. In going down

* Ramagap (or Father of Water-melons) is the name of a Boer hunter, after which the plain is called.

the Boana * valley, through a pass in the flat-topped range on which we are encamped, we got a distant view of our former route to the Falls, which bear north by compass.

The valley is a very pretty one, occasionally quite romantic, with perpendicular cliffs of basaltic rock, against which grow gigantic euphorbias, and a fine sheet of clear water beneath, in which the lilac flowers of the nye and the long-podded sekèse, or mashashangama, are reflected, mingled with the scarlet blossoms of the aloe. These flowers are well worth cultivating. The trees are pretty, and the abundance of their flowers cannot be surpassed. The nye, moreover, produces an edible fruit. They all blossom before the leaves appear. I found a honeycombed calcareous substance, which may be of insect formation (madrepore ?), but looks like coagulated froth, and on the banks of a stream, where one would fancy it possible for a mountain torrent to leave a quantity of froth sticking in the leaves and grass. The cavities of this kind of vegetation, if not the seeds themselves, turned into lime, are distinctly visible. The rocks of the ravine are, moreover, covered with a calcareous incrustation. At Boana water boils at $206\frac{5}{10}°$; therm. 75°.

6th September.—This morning I sent Dokkie early to assist in bringing Baines with the other wagon. They have stuck on the road. Late at night they arrived.

The Makalakas here sing a song, the time of which is very like "Miss Lucy Long." Most of their songs have a half melancholy tone, but there is something sweet, though simple, in all. There is nothing boisterous, loud, or offensive to the ear in them. I believe there are some amongst the poorer class, or Bushmen-Makalaka, as I term them, who understand the Bushmen dance of Porrah, the evil spirit, described in my former journals, by which they work themselves into a frenzy, often dancing round and round, and then dropping

* Called after a baobab, which is called Mboyo.

down as if shot, and writhe in convulsions, foaming at the mouth. The evil spirit is said to have entered at the man's breast, and his throat is the only place at which he can be got at. When he drops down his friends scarify him in the throat, and suck out the spirit, and then, coughing and expectorating, they spit it out. One of our Makalaka followers is in the habit of coming behind me unawares and imitating the shrill cry of an elephant with startling effect. When I turn round he scampers off, imitating the actions of the animal, and then winds up with a dance and laudatory speech, after which compliment he expects food or tobacco.

Having engaged a Makalaka smith to make nails for our boat, I visited his smithy. His bellows is made of two dog-skins, one to either hand, attached to a wooden tube inserted into an earthen one. These he draws up to inflate, and presses down to blow alternately, and thus keeps up a good current of air. His hammer is a very rude one, his anvil a stone, and his tongs a queer and primitive article. He makes very good spears, hoes, &c. The red oxide of iron is plentiful everywhere in the hills. My Damaras are making a collection to take home with them for sale. They pulverize it, and, mixed with fat, they anoint themselves and their dresses with it.

The Makalakas and Banabya will, I think, very soon pick up the language of the Damaras; my knowledge of which enables me to understand the other, to which it has great affinity—at least sufficiently to make a very good guess at their conversation. Of the languages spoken in this country, three in particular are new to me, viz. the Makalaka, the Banabeas (or Banyai), and the Batongo, or Batawka, a tribe which once lived somewhere near the Victoria Falls, where they were destroyed by the Matabele.

The Makalakas do not injure their teeth. The Banabya, or Banyai, file the front middle teeth; and the Batawka

knock their teeth out altogether, like the Damaras—the former in order to be like their cattle, the latter to be enabled to speak their language well, which requires lisping to perfection. It gives them, however, an ugly look. The Makalaka and Banabea have different dresses. The former dress like the Bechuanas, having two ends of a triangular skin tied round the loins, and the third drawn through between the legs, the end tucked in under the girdle at the back. This, with sometimes a rude skin mantle over their shoulders, completes their dress. They smear themselves with grease, and are very black, tall, athletic savages. The women have the head shaved all but a large crown piece, like a tight-fitting cap. At present there are many people here starving of hunger, and numbers have accumulated around my wagons to be near when anything is killed.

The magulie, which I have mentioned, seems to contain no nourishment; for although there is plenty of it, the natives become weak and sink for want of animal food or grain, which is their usual diet. They have large square baskets made of palm-leaves, with which the women go out every day, and soon gather enough to feed a whole camp; but for all this abundance they have a miserable, squalid, famished appearance, since attacked by Moselikatze's tribe a few weeks ago. They are, however, a cleanly sort of people for blacks. They wash their hands and faces early every morning, and take a bath at mid-day. Having long been a conquered race, they have been subdued in everything, and their morality, if they had any, has been chased away by the conqueror; so subdued are they now that they have no thought of their own rights or feelings, and believe everything they have, even their women, to be at the mercy of any kind of person who is a superior being. Anyone carrying a gun can command a hundred of these peop'e, and anything and everything belonging to them.

Native chiefs are everywhere so fond of flattery that they pay for it. In all tribes there are people who are cunning at making flattering compositions, which they din into the ears of their chiefs upon occasions. They generally display great eloquence, and metaphorical poetry comes natural to them. They generally rise early, and, visiting the house of the chief before he awakes, serenade him in this manner, continuing for hours a string of the most hyperbolical flatteries that one can imagine. As a matter of course, they think we are quite as susceptible as themselves. This morning a Makalaka came at daylight to assail me in this manner, but dancing to it, shaking his calabash rattle in his right hand, and holding his battle-axe in the left, singing "Great lion! Great elephant!" &c. I am obliged very often to disappoint them at the expense of my character for hospitality, for he who will not pay these bards is considered mean: what is worse, they refuse to leave your camp until you give them something, though it be ever so little. You are esteemed in proportion to what you give. Bechuana chiefs give an ox or a sheep, according to their means.

11*th September*.—Baines and John left for the river, in order to commence the boat. I sent with them about twenty Makalaka men, six Damara men, and several Damara women, carrying tools of all sorts, including pit-saws. Two days after, Snyman arrived at my wagon greatly humbled in demeanour. I employed him in shooting game. One day he got three of our dogs from my servants, and took two of them with him. One was dragged away from their fire-place by a lion. Next morning they followed the trail to see what animal had done it. The other dog came upon the lion, and had scarcely barked at him before his back was broken, and he, also, was killed. That night the lion came again, and sprang upon a Maka-

laka as he lay at the fire, and was in the act of retreating with his prize, when some spears were hurled at him, and he dropped his prey; but the lad was quite dead and his neck broken, though only an instant in the clutches of the beast. The natives here, however, seem to be more afraid of hyenas than of lions, and are obliged to make strong fences to keep them out of their encampment. Still, many are carried away regularly and devoured.

14th September.—Two beautiful floricans, or korhaans, coming in sight of the wagons, I tried hard to secure one, and at length succeeded. It is different to any other kind that I am familiar with, such as the croaking korhaan, the noisy korhaan, and another something like the latter, and the large bush korhaan. It may be the latter, as it is many years ago since I saw it in Natal, before I took much notice of these things.

I have employed a Bakwain woman to coil up some brass wire on rings of hair for armlets. She makes them almost as neatly as our fiddle-strings are made, the machinery being very simple. A small piece of wood punctured at one end, through which the end of the wire is put, serves as a handle to prevent the wire wearing out their fingers. They hold this with the left hand to guide the wire, while with the right hand they dexterously rub the coil in the direction required, making it revolve several times to every stroke.

19th September.—The heat begins to be very oppressive during the day-time. This morning, in throwing out some water, I observed some seeds of the pest-grass, which I have mentioned before, begin to writhe about in the ground, some jumping up and alighting on one end (the seed end), which was propelled into the earth like a corkscrew. In this manner, I suppose, it is provided by Nature that when the first rain falls these seeds, lying on the baked earth in

inactivity, spring into life, and plant themselves, while the spiral writhing of the shaft end, or beard, propels the seeds underground.

White ants do great mischief here, and trouble us, creeping up the poles of the house and devouring the goods. I find it is a good plan to saturate the ground with brine, or sprinkle it well with salt, when they take the clay to build the tunnels by which they travel. In Natal it is quite a profession to get rid of these insects by killing the queen. Those who follow the business know where to find the seat of government by percussing the ground, and following one of the tunnels or passages from the house which they are devastating. Here a kind of black ant, three-quarters of an inch long, is a great check upon them near the river; but still they thrive, though they are a great article of food with the natives, who take out nearly all the full-grown ants from the nests every year. Still, as long as the king and queen are not destroyed, they are just as powerful the next season; but when the queen dies, and the king with her, all the rest die also.

The black ants regularly storm the citadels of the white ants, and, having found an entrance, they seize their victims between their powerful mandibles by their neck. But this is not enough: the white ants have also powerful mandibles, and, recovering from their surprise, might soon be a match. So the more active enemy carries out his victim, and, piercing it with its long sting, leaves it senseless, returning to the attack several times, until either the whole of the white ants, or as many as they can bear off, have been slain. Then, as if by mutual understanding, they collect the dead, each ant seizing from eight to ten of the young white ants in a bunch, their heads all together in his embrace. They return home from their foraging expedition in regular regimental order, a long line of from 700 to 1000 individuals, and formed three or four deep. These are preceded at some distance by three or

four individuals, who seem to act the part of guides, and never carry anything. They utter a peculiar hissing noise as they march; perhaps this is their triumphant music—their "See the conquering hero comes." On seeing them for the first time on the Chobé I thought they were expecting the flood, and bearing off their own progeny into a drier locality. They become fearfully enraged when deprived of their spoil, running about like mad, and seizing hold of and stinging everything that comes within their reach. On these warlike expeditions they venture out a long way from home, walking three abreast, and seem to learn of the existence of prey from spies who evidently find their way in and out by scent. They are black and slender, abdomen rather compressed laterally, and the thorax tufted with yellowish-grey hairs.

A very small reddish-brown ant here is a great nuisance, more on account of the disagreeable tickling sensation they cause than their biting powers. They are also constantly dying the victims of their own greediness, tumbling in hundreds into any fat or milk or cooked food, of which they seem to be more fond than of raw. These are very much more minute than the small stinging ant of the Cape. They attack the larger ants and destroy them. One of these little insects catches the large ant by the foot, and holds on in the meantime to anything within reach; soon others come to his assistance, and they overpower the large one by numbers! I have never seen so great a variety of ants as there are here, or of such different habits, some living on grain and grass, some on raw meat, some on cooked, some on sugar or honey, others on flowers, and others on fat, &c. &c.

Besides these insects, the numerous swarms of flies are beginning to annoy us. Large blue-bottles come buzzing and booming in at meal-times in a most disagreeable and pertinacious manner. The blue horse-flies bite as bad, if not worse, than tsetse, and even during the night. Wasps build

their clay houses, like swallows, in the hut or wagons, and fill them with plump caterpillars, which they construct fast into small chambers adjoining that of their larvæ, rendering them inanimate by a sting (by which means, also, the process of metamorphosis in the aurelia state seems to be retarded); so that their progeny, on first opening their eyes, find before them fine plump caterpillars, by feeding on which they are soon able to take flight for themselves. This wasp is of a dark steel-blue colour, with pretty contracting yellow anthers. I tried ashes as a remedy against the termites, and with success. It is quite delightful to have put a stop to their work. At other times, while all else is wrapped in sleep, they are very busy, and under cover of night raise their galleries round every pole seven or eight feet high before morning.

29th September.—Writing letters during several days past. I had intended going next in search of a road to the river, or as far as possible in that direction, free from fly; but having received very pressing messages from the south inviting me to come and kill some buffaloes that were every day around their houses, I promised to go there first, and started accordingly. I had about twenty men with me, and, rounding the spur of the ridge, crossed the Chabaisa river in a lovely valley. I found this everywhere so full of fresh lion spoors in my path that, as it grew dark, I was delighted to come to an inhabited Makalaka village. These friendly people received me with the usual flattering salutation of "Lumèlla khosi, tona!" with a string of other flattering titles, which they had probably learned from Moselikatze's kraal, or which would have done credit there. After a preliminary conversation they saluted each other by clapping their hands in the most solemn and pathetic manner, accompanying the actions with a few words or groans uttered with great pathos. About a minute is devoted for a greeting to each individual, and then they proceed to recount their news in the litany

style, the listener responding after a certain number of sentences. These recitations rise or fall according to the pitch of excitement of the relater—now moving in solemn cadence to the musical chant of a Latin litany, at other times to the pathetic and plaintive tones of a love-ditty, now rising in excitement to the heat of an impatient warrior, and anon sinking into the whispering cunning of the crafty politician.

They cleared out a hut for me, and two large bundles of clean grass made me an ample bed, whereon I spread my blankets. After this two or three large dishes of magulies were brought me in the most kind and hospitable manner. They have a greater notion of cleanliness and comfort than the Bechuanas, as I noticed by the manner in which they prepared my bed. Leaving me to my own reflections, with a fire in my hut, and plenty of fuel outside, they scattered around in groups, according to their ages—men, women, and boys—chatting and joking until a late hour. Four different conversations or arguments are carried on, each louder than the other, and with marvellous facility, the sharers in each being fully absorbed in their own subject, and heeding not the surrounding Babel of tongues. In the midst of all this tumult a single performer, quite absorbed in the musical tones of his "goorah," and striking the chord with a small reed, sits in the middle of the circle. While admiring the scene the groups were strengthened by the arrival of several young men who had returned from their daily rounds through the fields, in search of the leavings of the lions, or to dispute with them their prey. Amongst the arrivals there was one whose presence seemed to excite the risible propensities of the company, his own relations as well as strangers. I could not help wishing to gratify my own curiosity as to the cause of their merriment. On inquiry I found that the lad was most frightfully disfigured in the face, having been once dragged out by a wolf, who had torn away his nose, and so mutilated

one of his eyes as to render him a frightful object. I called the lad over to my fire, in order to have a closer look at the frightful gash, from which I hardly think a white man could have recovered, but their disposition for healing from frightful wounds under such unfavourable circumstances is as marvellous as their great insensibility to pain. The skull seems to have been opened round over the top from ear to ear. Thinking it was also to laugh at him that I called him, at first he would not come, but retired behind his companions, hiding his features; but when he heard me chide the others for their ill-timed merriment he came over to me, and I gave him a junk of warm meat, which he gladly accepted as evidence of my sympathy with his misfortune.

Great discussions were next held as to the direction in which we should travel to-morrow, each point of the compass having its advocate, but the great majority decided on our going west.

30th September.—We started early. I had the sun at my back. Wearing a narrow-brimmed hat, which threw no shade on my bare neck, the sun, striking on it with full power, soon gave me a frightful headache and partial sun-stroke. During the last fortnight the thermometer has been 90°, and sometimes 98°, in my open wagon at 9 o'clock at night. I saw a small herd of buffaloes, and was obliged to shoot one, but my head was so bad in consequence that I had to lie down under a tree, and though troop after troop of quaggas came near me to drink, I could not shoot. Before night every particle of the buffalo had disappeared into the mouths of these hungry fellows, so that I had none to send to camp.

The valleys were here covered with a beautiful carpet of green, and several groups of lovely antelopes and striped quaggas grazed around. Among them was a beautiful male sable antelope with fully-developed horns, and at any other time I should have been only too glad to secure one. We

fell in with a ready-made kraal, which had been used by Makalaka hunters lately as a protection against lions and hyenas. Scarce had night set in ere the roaring of lions was heard around the camp, and we added fuel to our fire. One of the native lads sitting near the fire was bitten by something; he thought at first it was a scorpion, but the pain continuing to grow worse, he thought it was a snake-bite, while others supposed it to be a spider. Whatever it was, the boy's pains increased so much that, notwithstanding the natives' usual insensibility to pain, he now screamed and shrieked and tumbled and raved in the most frightful manner, and I felt much distressed on his account. Inside our camp all was confusion, while outside our fence the lions prowled about, and commanded at times an equal share of our attention. My two dogs, however, bravely fought them away after awhile. The boy's father, his speech convulsed with grief, begged of me to help him, and the boy too, in his lucid intervals (for he had gone mad)—begged as if it was really in my power to help. I had given the Bushman, April, a piece of snake-poison antidote to carry round his neck in case anybody was bitten by a snake, but he had unfortunately gone to sleep some distance off, beside a quagga which he had shot. I bethought me, however, of a plan I knew to be practised by the Boers of the Trans-Vaal in cases of snake-bite. Causing the sufferer to be held down, I scarified the wound, and, having put some drams of powder on it, ignited it, repeating the operation twice more. Immediately afterwards he seemed considerably relieved, but every now and then his shrieks were terrible, and he was delirious at intervals.

1*st October*.—At sunrise my headache had left me, and, feeling refreshed, I walked out in search of a white rhinoceros, having seen the spoor of that animal. I found another beautiful stream, but could not learn its name. I soon caught sight of two rhinoceroses, fighting, as it seemed to me, head

to head, like two bulls. My guides thought the objects were only bushes, and I stopped to see if they moved. Presently the dust flew from the ground as they pawed the earth and dashed it with their horns. Making a circuit to get under their wind, I had to sit patiently for two hours watching the fight, which turned out to be a playful encounter between a male and female, the latter having a calf by her side, which exhibited tokens of sympathy with her dam. They were in the middle of an open valley, on a grassy plot, which I could not approach nearer than 200 yards without disturbing them, and as I wanted to secure all three, I determined to have patience, and sat observing the play. In the end, I confess to having been cruel enough to shoot them all.

The male rhinoceros was a khetloa. I believe that I am right in assuming, as I have done in previous observations on the khetloa, or borèlè, that there are three varieties of rhinoceros, positively distinct from one another, besides one or two that are doubtful. First we find the mohogu, or white rhinoceros, also called chukuru, mogoana, and mogoshuana, at different stages of maturity; secondly, the kobaoba, or long-horned white rhinoceros; thirdly, the khetloa, or the true and large borèlè. Besides these we find the borelengani, or kenengani, and the mogoshuana shot by me on the Botletlie river in 1854, and which I consider to be actually another grass-eating rhinoceros, and not a hybrid.

No. 1.—First, then, with regard to mohogu (*Rhin. Sinusus*): its colour is of such a light neutral-grey as to look nearly as white as the canvas tilt of a wagon. The male measures 6 ft. 8 in. at withers, carries his head so low that the chin nearly sweeps the ground, is constantly swaying his head and horns to the right and left when suspicious, and its calf, instead of going behind, or at the side, always precedes the dam —and when fleeing is helped onwards by her horn or snout. The back of the mohogu is tolerably straight, but the croop

(? hench bone) is as high or higher than the withers; has a large square hump, a double navel, and females a blind pouch near the vagina. It moves each ear alternately backwards and forwards when excited, and which, when thrown forward, turns as if on a pivot, so bringing the orifice of the ear innermost. It has a broad square muzzle, eyes small and lateral, horns long (anterior one white), and of a coarse fibre. It is an indolent creature, and becomes exceedingly fat by grass eating. The mohogu is also gregarious in families, which are

RHINOCEROS MOHOGU, AND HORN OF THE SUPPOSED KOBAOBA.

greatly attached to each other, and utters a lowing sound, and not such a startling whistling snort as the borèlè does. The hide is thick and wrinkled at base of the neck; the ears are pointed and tufted.

No. 2.—I once had the vanity to think I had upset all the current opinions on the subject of the kobaoba, and, with all deference for the opinions of others, I shall say nothing more than refer to my photographs of the mohogu and kobaoba, and give the opinions of some of the most

experienced native hunters whom I have met on the subject, for, after all, my opinions may be erroneous. At all events, the scarcity of the animal, if it really is a different one, puts it almost out of one's power to furnish correct information on the subject, and I am not aware of having seen or shot more than two in my time. Some of the native hunters, who take a different view, and differ from me about the non-existence of kobaoba (and, to do them justice, they are very observant of animals), assert the kobaoba to be more slender in the body than the preceding animal; that he has a decidedly hollow or saddle back; is not quite so white or quite so large as the mohogu; that he carries his head and his neck, which is however longer, like a borèlè; and that the horns do not always show a downward tendency at the point, but sometimes grow very crookedly the reverse way. They appear to be long and tapering forwards. The edges and inside of their ears are very hairy. The female kobaoba, if kobaoba it was, which I last shot at Kanyo, had also the blind pouch like the mohogu and borèlè. I have stated these facts in support of the opinions of others, but against my own, because I understand that Dr. A. Smith has given *Rhin. kobaoba* a separate plate in the "Natural History of South Africa," and I consider it every explorer's duty to state what he can on these matters to enable naturalists of various opinions to arrive at the truth at last.

No. 3.—Borèlè, or. khetloa, male 6 ft. at withers, female 5 ft. 8 in., is that described by Harris as *Rhinoceros Africanus*. The country here abounds with them; they are nearly as large as mohogu. They drop behind, and have a stiff, clumsy, and awkward walk. The horns grow to equal lengths, are flat, and chopper-edged. You may know the borèlè by the comparatively lazy manner in which he throws forward *both his ears together*, and lifting them as lazily again *together*. He feeds on bushes and roots, is nervous and fidgety when

discovered, but confines his movements generally only to the head and horns, moving them in an undecided manner, first one way, then the other. He is not nearly so excitable as the borelengani. He is of a dark neutral-grey colour at a distance.

The *borelengani*, or *keningani* (sometimes, I believe, called *chukuro bogali*, fierce rhinoceros), has large ears, pointed and tufted, considerably smaller than the latter, which he cocks in a remarkably frisky way, and *together*, by which he can be at once distinguished. He is a dumpy, plump-looking animal, of very dark colour, very lively in his actions, seemingly always on the trot; always very nervous, wary, and fidgety; often flying round in a fury, whether he has observed danger or not, making the hunters sometimes believe he has been discovered. When he fancies he does hear or see anything, he lifts one foot, tosses up his horn and nose and sinister little eyes, and presents altogether a perfect picture of the most intense and earnest scrutiny and attention, wheeling round with great rapidity, and, by his active gestures and startling snortings, often rendering the nerves and aim of an inexperienced hunter very unsteady. On the whole, his actions, when undisturbed, are like those of a lively and busy pig. The anterior horn is long and neat, thin, shiny, black, and pointed, and of fine texture. The posterior horn is always short. It is rather small round the neck.*

These are the descriptions of the acknowledged *four* varieties of rhinoceroses, if we admit kobaoba to be one. I think that, by taking notice of the above-mentioned very few peculiarities of action, &c., it will not be found so difficult to distinguish them as by mere details of measurements. Besides these four varieties, there is a fifth, either a distinct variety or a hybrid, eating grass as well as bush; and I am happy to say that, since the one shot by me on the

* Some precise measurements are given in the Appendix.

Botletlie river in 1854, my friend, Mr. F. Green, has shot one, and a third has been shot by John Kenny and Snyman in this country.

7th October.—Rode over to Reader's wagons, with letters, &c. The valleys have a beautiful carpet of green young grass upon them, and the herds of red pallahs skipping and bounding playfully on the turf are quite delightful to behold. Next morning, making a sweep eastward, fell in with a pretty fountain having two or three sources. The fountains, like the Chowè, flow into the Daka. Shortly afterwards I fell in with three quaggas and shot a mare bearing twin foals. The other two, as usual, were unwilling to run far, stopping to bark, and wait for their companion. Quaggas show great attachment to each other, and often die victims to it. I followed them up, and, falling in with a troop of buffaloes, shot one through the heart, and the rest ran off. I had a gallop after the others again over the rough stones. For the first time in my life I saw a buffalo turn back out of a flying troop and charge, and the result was, that I and my horse nearly forfeited our lives, or the use of our limbs, in consequence of it. The fact is, I had followed too close on the heels of the troop, but had, fortunately, been reining in at the time, and was dismounting, when the buffalo turned away within a yard or two of us, and dashed after the troop. I next fell in with a village at a fountain. The people here had gardens, with pumpkins, water-melons, and calabashes in a flourishing condition; but I saw that, in spite of all their ingenious devices for scarecrows, the buffaloes came every night to attack the gardens. Light baskets, suspended from a flexible bow, planted in the ground, and calabashes, with wings of grass, and full of motion, seemed to be possessed of life; but this would not scare away the buffaloes. I followed their trail as they were leading along my homeward path, and soon fell in with a large troop lying tail to tail in a

solid phalanx, their horns outwards, and their ranks impregnable. An infantry square with fixed bayonets could not have looked more imposing. I stalked close up. A bull started to his feet, and, throwing his horns backwards on his neck, was in the act of approaching me, but, having my aim on one still lying down, I fired behind its shoulder. The whole herd made a cloud of dust with their prompt rising, which concealed them as they fled. I galloped after them in the dust, and came suddenly upon a small troop of six, which had evidently been disturbed in their nap by the flying multitude. I shot five out of the six, and then found that I had not a bullet left. A spirited scene ensued, for the last buffalo retained possession of the field, refusing to leave the side of his dead companion, whose attitude he probably took for that of sleep. Whenever I approached, the poor beast, evidently faithful to his mute companion, charged at me, and I was finally obliged to leave him. The necessities of feeding his little army of followers, who are wholly dependent upon his rifle, prevent the hunter from dwelling with the sympathy they merit upon scenes like this.

I hear from Reader and Rapiet that the magow is only dangerous in August, September, or October, when the grass is short. When it is long, the cattle can pick it without eating the magow.

9th October.—I now prepared to start again for the river, but had great difficulty in getting together a sufficient number of men to give the requisite help in the transport of our material. Some whom we had engaged ran away during the night; others fled at the sight of Baines's boxes and heavy cases. There is some excuse for this: it is ploughing-time, and they are naturally reluctant to leave their homes. The weather is now very hot: thermometer 78° at sunrise; 105° in the afternoon; and 95° at 9 in the evening. When the rains fall it will probably be cooler,

but at 9 o'clock at night the rocks still feel quite warm. The buffaloes in this country are certainly small, and my Bushmen complain that they are also very lean. With our Kuruman neighbours, who seem to be starving most of their time, the cry is, "How tough the game in this country is!" They are poor hunters. The other day four of them, mounted, attacked an elephant on the Sheshèke river, and, according to their own account, fired about 200 bullets at him, and, after fighting him the whole day on an open plain, ultimately left him in despair. The fact is, this elephant had shown unusual courage and sagacity, charging before they attempted to fire at him, and without uttering any sound at all. The same animal, we were told, had a short time before killed two men wantonly and without provocation, seeming quite in sport.

The following table exhibits the temperature of the air at the wagon at Boana during one week in October:

				Noon	Sunset	9 P. M.
Sunday,	October	19	.	106°	116°	88°
			Sunrise	9 A. M.	2 P. M.	Sunset
Monday,	„	20	. 73°	102°	107°	98°
			Sunrise	10 A. M.	2 P. M.	Sunset
Tuesday,	„	21	. 77°	104°	104°	99°
Wednesday,	„	22	. 75°	86°	100°	96°
Thursday,	„	23	. 73°	104°	108°	106°
Friday,	„	24	. 74°	102°	104°	104°
Saturday,	„	25	. 72°	100°	108°	106°

I bought here a piece of a bull tusk, weighing eighteen pounds Dutch, which was found in the stomach of one of the elephants killed by them on the Sheshèke. The two had evidently been fighting some time before, but there were no external signs of the hide having been penetrated, the elephant being quite hearty, and the wound having closed up again.

CHAPTER VII.

Start for Sinamani's—A Whirlwind—Mazhanga—A Leopard Trap—The Kakobi, or Little Zambesi—Machifigé—Geological Features—The Matietsie—Reach the Zambesi again—Wankie—Camp at the Zambesi—Perplexities of our Situation—The Gwai or Quagga River—Meeting of the Waters—Hippopotami—Intense Heat—The Zambesi Valley—Native Plants—Population of the Zambesi Valley—Reach Sinamani's—Interview with the Chief.

11*TH OCTOBER.*—At last three Makalakas arrived from the south-west to assist in the carriage of our things to the river. I had already packed off all the Damaras and their wives—that is, all that could be found. These fellows are all well and good when you have no particular work for them to do, and they are left to polishing their spears, slaughtering beef, and eating it, with ample time allowed them to make their toilet, anointing and plastering themselves with filthy grease and ochre, and scenting themselves with the vile odours of fennec (*katakahu*). When there is real work to be done they are fit for nothing—lazy, disagreeable, and gluttonous—and they now appear so more than ever, probably from contrast with the more willing and useful Makalakas.

I started from Boana about sunset, travelling only a few miles down a rugged declivity, and slept at the miserable hamlet of a few needy Makalakas, encamped by a fountain running east into the Daka river, where a troop of quaggas were drinking. Early next day we passed the dwellings of some other Makalakas, who were busy planting corn. We

soon after overtook a party of our porters who had preceded us. We halted at Matietsie during the heat, having shot a waterbuck. Here we were met by Mandu, one of our Makalakas. Six days before I had sent him and Funia, a fine, tall, good-natured fellow, to Baines, with supplies of coffee and gunpowder. Having rounded the Kwacheuna sand-hill under cover of night, they lay down by a fire, the moon shining full and bright. Being tired, they fell asleep, but they had not lain long before Funia uttered a piercing shriek, and Mandu, starting up, saw his companion in the act of being dragged off by a panther or leopard. Seizing a brand, Mandu attacked the beast, which relinquished his hold, and the men fled from the spot to the neighbouring village of Mazhanga. Here Funia died the next day from the effects of the wounds in his face and head.

The men having cleared off the remains of the waterbuck, we made an early start, in order to have time to make a kraal at the next halting-place. Passed several trees (a kind of sterculia), exuding a white, unctuous, acrid resin. The heat was now intense, with occasional hot blasts from the eastward, filling the air with an atmosphere like that before a furnace. At this season the landscape generally is dry and leafless, with only here and there a green and shady tree. An occasional whirlwind swept by, tearing up the grass, and raising clouds of dry leaves. One more tremendous than the rest, in shape nearly a solid spiral mass of black earth and dust, fully thirty yards in diameter, approached us, with the noise of a steam-engine. I involuntarily took to flight; but though I dodged and ran in circles, it seemed bent upon following me, and at length I was overtaken. The first impulse was to put my hands on my hat, and in the darkness which beset me I felt myself whirled round against my will. Nearly suffocated, I threw myself on the earth. I felt as if my head would burst; my ears stopped with a tremendous

pressure from without. I had buried my face in the crown of my hat, but, notwithstanding, I had inhaled volumes of dust by mouth and nostrils, and for several moments I felt all the horrors of suffocation. Fortunately it was moving on, and had soon passed over me. I gasped for a moment or two, and then breathed more freely.

Crossing the Matietsie river, and traversing eight miles of rugged country, we passed a native village. Two miles more brought us to a broad, open, and picturesque valley, dotted with clumps of beautiful green, shady trees. Here we found Snyman and his party, whom I had sent on with the four sections of the boats, &c. They were feasting on an eland bull which he had shot. I found great alarm on all sides at the death of Funia; but so listless are these people that, finding no precautions taken against such attacks, it was necessary for me to adopt some plan to provide for the general safety. This was no easy matter, as we were encamped on a plain. It was not long ere a wolf dashed into the camp, creating great consternation, and all the Makalakas fled away from the fire into the fields, thinking it was a lion. The wolf, however, meeting with three or four of our large dogs, made a retreat, and, being chased for a quarter of a mile, was entrapped in a pitfall, where he lay howling.

Next day I fell in with and shot on our path three rhinoceroses (khetloa), and gave permission to the people to cut them up. I travelled by the edge of a sandy ridge down which innumerable elephants passed every night to drink at the Matietsie. For 10 miles spoor succeeded spoor across my path, and I calculate that there could not have passed less than 2000 or 3000 elephants during the night, chiefly, however, cows and calves. I noticed also, as I came along, several heaps of grass piled over or in the rocks at intervals. This is the manner in which the black cobra

(*Naja hæmachetes*) builds for itself a nest, which throws a cool shade over the rock under which it lies. All snakes are averse to great heat; only after cold or rainy weather they like to bask in the sun until the numbness of the body has been relaxed. It is on that account that we see scarcely any snakes at this time of the year, excepting, perhaps, during the cooler part of the day.* A squirrel (*Sciurus cepapi*, Smith) builds a similar nest, but over the decayed hollow trees, in which it places the stores of grain and other provisions laid up for future consumption. A mouse (*Graphiurus capensis*), with a large bushy tail like a squirrel's, with fine fur, and broad and large ears, builds itself a nest, like that of a bird, on the branches of trees: it is easily tamed. We met at intervals graceful koodoos with horns four feet in length. A brace of fine bulky elands, and several waterbucks and sable antelopes, looked down from an eminence on us as we passed, but I would not fire. Coming to the spot where Funia was caught, I met a number of Mazhanga's people carrying home the remains of a quagga killed by a lion.

I hurried on to Mazhanga's place, anxious to secure a safe resting-place for my people, as well as for myself. Mazhanga is an intelligent-looking fellow, with sharp, expressive features and bright eyes, and great self-possession. He is dependent on Wankie. His people, who are numerous, are dispersed over a great extent of country, a family dwelling here and there beside a fountain, very much in the manner of the Boers. Even the great man Wankie himself lives only with his wives and a few servants to attend upon him.

I inquired of Mazhanga what became of the body of Funia, and, having learnt that he had buried it, thanked him. I was somewhat horrified to learn from him that three people of his own village had fallen a prey to the ferocity of the leopard. The

* The black cobra is of a dusky black, from five to six feet long, with black throat, and makes a loud hissing noise in its flight from man.

unfortunate victims were a woman, a lad, and an infant. The walls of their houses are made of strong poles, lashed to one another in a circle, thatched over with grass, and protected with thorn branches all round. The men could not come to my assistance in the evening, as the leopard, taking advantage of their absence, attacks the women, and during the rambles of the females in the day-time in search of maguli men are obliged to accompany them for protection. One can hardly wonder at the success of the leopard, as Mazhanga has buried himself in a dense thicket, on a hill of rich brownish-red sand, where he had made a considerable enclosure, which was planted with earth-nuts and a kind of millet, which requires a dry, elevated soil. They plant the *Holcus sorghum* and *saccharatus*, pumpkins, melons, and calabashes, in the black soil near fountains and running streams. At the back of a hut placed at my disposal stood a large heavy leopard-trap, a good specimen of native ingenuity. It was raised five feet high at one end by a lever (over a scaffold), the end of which was attached by a trigger to the bait in the farthest end of the coop. The leopard, when tugging at the bait, disengages the trigger, causing the trap or coop to fall over and enclose him. The coop is made of strong saplings, lashed together with bark, and, when once enclosed, it is in vain that he struggles for escape. A spear is inserted through the openings, and the enraged animal is speared to death.

14*th October*.—Mazhanga made no movement towards rendering me assistance. He and his men were all the morning sharpening their spears and holding a levee, several of his people having visited him with the tributary share of meat, entrapped or picked up. Clapping the thighs most energetically is here equivalent to "Thank you." The men have each three or four fine new spears. They are all, women as well as men, fat and plump, and do not look as if they had been sufferers by Moselikatze's invasion. They adopt the

fashion of knocking out the upper front teeth. Their language is different to the Makalaka, and very like that spoken by most of the prize negroes brought from the east coast to the Cape. They have consequently been called, very appropriately, I think, Mosbiekers—a corruption of Mosambique—from this resemblance. They ornament their bodies by cutting cicatrices in the form of a collar pattern, &c. I saw here a small model canoe, with flat stern.

Having made so grievous a mistake as to shoot more meat on the road, it was hardly to be expected that the Damaras would come up last night; but they did not even make their appearance all day, though the Makalakas have come punctually. Can it be credited that, besides the bundles of flesh they brought from the wagons, they (about fifty men, women and children) have devoured a buffalo, a quagga, a pallah, two waterbucks, and three rhinoceroses, and all since Saturday evening, this being Tuesday? I left Mazhanga's village in disgust, and proceeded by a beautiful open, green valley, an old river-bed leading into the little Zambesi or Kakobi river, where the Makalakas were waiting for me. Here the natives have their houses raised on high stages, erected as a protection from lions and leopards, and from which to yell and frighten away the elephants from their gardens during the day. Having a frightful headache from the heat of the sun, I resort as usual to my Bushman remedy, at the expense of having my forehead ornamented with blisters dotted all over it next morning. April has a root which he puts into the fire, and brands me all over the forehead, heating it again and again. It is the heat of the fire that gives relief, not the root, nor any of his genuflexions over me. A bag of heated salt also gives relief, but I do not know whether it is good to repeat it so often.

At the camping-place of some Europeans who lately hunted here, I was sorry to see the tsetse. They had evidently fol-

lowed us from the neighbouring sand-hill, which is covered with a dense and luxuriant vegetation, but the trees are plastered into their very tops with red earth by the ever-busy termites (a new kind, smaller than the common). Everything seems in a fair way to destruction from these insects. Some elephants had roamed about last night. The system of government here is peculiar, and holds together wonderfully, considering the people and the circumstances. For instance, they are spread all over a large extent of country, in small villages (that of the chief Wankie being the least) or families, like the Boers. They each occupy a fountain or two, where they plant, and believe that this plan of life adds to, instead of diminishing, their security. They are, however, in constant dread of Moselikatze's people, who every year make their rounds, stealing children and murdering the parents. As they have no cattle now, their wives, of which they have a good number, may be said to comprise their sole riches. Wankie himself is said to have owned eighty, but Moselikatze has taken forty at different times.

After leaving Kakobi we travelled in a more easterly direction over rocky hills, and halted for the heat at about 10. The hills, since yesterday, are rather bare of trees, but ripe grass in abundance waved over their brows. Here and there a wall of grey rocks, probably limestone, cropped out at the tops on either side of the valley, and the bright green and rich brown of the young leaves on the borders of the streams, and the warm red over the ripe grass, with green trees, blue stream, and black rocks beneath, form an attractive picture. The fountain at which we halted was called Lokuñgunie; this, together with another, called Mokoma, which we had just passed, flowed north into Kakobi, now on our right. I saw here indications of a trade in salt from the north. We travelled over the hills, and descended to Kasai. On this

day last year, I hear, it rained heavily in these parts, but the sky and the weather show no signs as yet.

16*th October*.—We passed over the right shoulder of a large table-mountain, with sloping sides, and halted, on account of the heat, at a stream called Machingé. On descending a deep and sometimes wild-looking valley, we drank at two other fountains. The hills on the left, which rise more than a thousand feet, seem to keep the level of the highest part of the desert. Their summits are flat, and covered with the same sandy soil of the desert beyond (*i.e.* south of) Daka. Our course led through a dense jungle, composed of tall mopani trees, now leafless. Progress was obstructed, however, by the dependant of a plant attached to the branches immediately above the ground, apparently a kind of fig, the juice of which dropped stains like blood on the bark of the trunk. It was difficult to see or shoot at anything, but before sunset a troop of buffaloes passed. I followed the cloud of dust for about a mile, and came up with them, but saw only the hindermost, who turned to look back at the danger. I made a quick snap-shot, and secured him. The report of my gun probably brought on the people, who came dropping in one after the other, and fell-to at the flesh with a vengeance.

Next day we descended by a long, winding, steep, and very rugged path to the Matietsie. The rocks on the hill are of a hard sandstone, worn full of cavities as big as one's fist; below the rocks are of a crumbling, chocolate-brown sandstone, with radiated zeolite (?) embedded in it. The Matietsie river contains a large quantity of water, but there is no getting at it, as it is margined with sharp and prickly reeds, a few green clumps of trees, and bare motchuerie trees on its banks. The slopes of the hills are thickly studded with a kind of fig tree (sterculias, sorokaan, &c.), and young ventricose baobabs. From their shape, I consider them young,

though they may be some hundred years old. There are no large ones on any of the slopes in the intervening country in the desert beyond Daka and the river; but on the tops of the highest sandy plateaus, even those overlooking the river, they are quite equal to what we see in the desert.

Yesterday, during the descent down a long valley, I noticed several peculiar indentations and water-worn caverns in the beds and banks of the streams: to them we were sometimes indebted for our supply of water. I wondered whether men or elephants had dug them, but conclude that they must have been worn by the force of mountain-torrents in the rainy season. Nearly all the fountains in this country cease to run after the first mile or two at this time of year; and many very noble streams between Daka and the Falls were quite dried up during our short stay at the latter. Some green indentations against the slopes of hills we passed yesterday show where fountains have been, which have probably been closed up by the feet of hundreds of elephants and other animals.

At the Matietsie I met a number of Wankie's wives hunting for fish—a strange occupation for the wives of a chief; but since these people were attacked by Moselikatze they are put to great extremities for food. The women were gathering a root called n'damba, which they pound and cast into stagnant pools, and all the fish are poisoned. The root is not poison to man, and the seeds, a kind of bean, are an article of food. I tasted some of the root, which has a sweetish flavour, with the slightest taste of pepper. It is very glutinous, and not the same (illusani) which the Natal Kaffirs use for the like purpose. The women roast their fishes in a cleanly manner, on a gridiron made by placing several sticks across two long stones. They had also collections of a winged seed called n'tombolo, which tasted like beans; these they boil, and

from another root, n'tebe, which they cut into thin slices, dry, and pound, they obtain a very nice white flour.

The weather is now so frightfully hot and debilitating that where I could formerly walk 20 miles a day with comfort, I now can scarcely do 12, and having, moreover, blistered

ONE OF WANKIE'S WIVES.

my foot, I was unwilling to go out and endanger its cure, so sent Jem the Bushman and Bill out to hunt. Spoors of lions are plentiful, and they have been a great pest to the natives, having been in the habit lately of feeding regularly on them from the villages on the river. I made a small skaarm for myself, and bade the people bring abundance

of firewood for their own protection during the night. A good many, no doubt, fall victims to their own want of energy, and their own indifference, lying down with a small fire, which soon goes out, while they sleep on without re-kindling it. I found the horns of a magnificent old koodoo, killed very recently by a lion, on the spot of our encampment, and had them carried to our house on the Zambesi river.

18th October.—A walk of about four or five miles brought me to the Zambesi river, following up which for a farther distance of four or five miles, I reached the spot where Baines had established himself. I found both him and John very ill and weak, but recovering slowly. They had cut down more than a dozen trees already, but were at a standstill just now. It is frightful weather to work in.

I had a visit from Wankie, the chief here, having sent to invite him, and in the afternoon, without any of that impertinence we were subjected to by Mashotlaan at the Falls, Wankie readily came over. I mistook a sort of herald, who had a painted rag over his shoulders, for the chief. This man, hastily spreading a large square cloth on the floor of our house, disappeared in a twinkling. Then came a musician, whose tones we had already heard at a distance, dancing before Wankie, and bowing and playing before me by way of welcome. The music is performed on a primitive kind of piano inside a calabash—a sweet-toned instrument, worthy of being in the hands of a better musician, and being improved upon.

Wankie is tall, inclined to corpulency, and about fifty years of age. With an air of dignity becoming a chief, he is in appearance, address, and behaviour the best specimen of a black gentleman that I have ever met with. He readily entered into every plan I proposed in the most straightforward and frank manner, and had never begged anything of Baines yet!

The site which Baines had chosen for making our camp

was a very eligible one, on the top of a small conical mound 200 feet high, and commanding a very extensive view of the river up and down—the silver stream winding between precipitous blue hills fading away in the distance. On the opposite bank is Wankie's village, and just below it the more extensive one of his vassal Molomo-a-tolo (Koodoo's mouth); but I rather fear he is more faithful to Sekelètu of the Makololo than to Wankie of the Bashapatani. Molomo-a-tolo has one or two canoes, with which Wankie has fled from Moselikatze's attacks evidently into the Makololo territory, for Mashotlaan cannot be more than 50 miles west, and Sinamani, who pays tribute to Sekelètu, probably 50 miles north-east of this. Wankie, however, is here alone, with his wives and servants, his people living scattered in small villages of thirty to thirty-five huts, in the most inaccessible parts of the mountainous country south of the Zambesi; and though he is a civil old gentleman, I believe he has the reputation of trusting more to his heels than his courage in times of danger. Even children here say he is a woman (coward), and will not fight.

Meanwhile little or no progress has been made in the accomplishment of our cherished project of testing the navigability of the Zambesi. John, who is very despondent, wishes to go back to Otjimbengue, and fetch the remaining portions of the boats left there; but there are various objections to this. Our present position is certainly very discouraging, and I foresee various evils likely to ensue from the prolonged absence from the colony. Baines is still sanguine; but I do not see my way as to the wished-for launching of our boat, nor as to the avoidance of the rapids (or falls, whichever they may prove to be) reported by Livingstone as occurring in the downward course of the stream. I have come to the determination of going down to Sinamani's myself, and seeing if our path is clear. The time passed in this way will give Baines and John an

opportunity to recover, and be ready to set to work with renewed energies.

I walked with Baines to look at the trees he had cut, and to have a shot at the hippopotami. They were very wary, having been already fired at this morning. I am doubtful about the propriety of going in person to meet my brother, inclining to the belief that it will be better for me to stay either here or midway between this and the wagon. It is true that by pursuing this course I run the risk of losing the sale of articles left in the wagons, which ought to be disposed of; but it would be a great pity if we should fail in the execution of our project now, after getting on so far.

Finding it necessary that I should go to Sinamani's myself and see that there is not another fall between, I made known my intention to Baines, who, notwithstanding that he was not yet recovered from a recent illness, wished very much to accompany me. Accordingly we made preparations for a start on Monday, Wankie having promised us a guide.

20th October.—It was late before our guide arrived, so that we started when it was already very hot. We crossed the Luisi, or Daka, river about a mile below our camp, opposite an island on the Zambesi, on which Molomo-a-tolo dwells. Our guide wished to take us away from the river by a more comfortable road, and where there was game; but as we were going to explore the river, not the forest, we insisted, notwithstanding his assertion that there was no path, and no game. A herd of sea-cows, clustered together in the middle of the stream, had all the appearance of a small rocky island, being of the same dark colour as the stratified rocks through which the river has worn its channel. Again we found another, and then another troop, and having, after eight or nine miles' march, killed four sea-cows in an eddy, and as the sun was frightfully hot, I ordered an early halt, for the purpose of fortifying ourselves against the lions, and also that

we might be near to watch the floating of any of the dead sea-cows before morning. The hills forming the valley of the Zambesi are very steep here, and are covered with a sombre-looking and leafless vegetation, very unlike the pale neutral grey of the desert. A few trees on the banks alone are green. The baobabs on the river's banks are pretty large, but I notice that the largest grow on the highest plateaus —that is, on those ridges which are on a level with the desert. Several sterculias and a great many wild fruit trees abound, and the black-looking motsouri, a wild loquat, is the most pleasing now, owing to its shade. There are little or no reeds on the river, or grass or vegetation on the rocky banks, and consequently, I should think, must be tolerably healthy. The current here is about four miles an hour; the rapids, I should say, run seven or eight, and some even faster; but there is nothing to obstruct the passage of a boat with a good steersman.

I have now had an opportunity of seeing the hippopotamus bird more distinctly, and find that it is decidedly not anything like the rhinoceros or buffalo birds, but, like its friend, aquatic. It is a kind of snipe, or small sandpiper (*Charadrius trigonatus*), of a dark grey colour, white underneath, with red legs and bill, and red cere round the eye; the underwing coverts are white, or partially so. They are the smallest sandpipers, or plovers, I have seen, and seem to flutter about in great distress when the hippopotamus has been frightened under, keeping up a constant cry, and attempting to alight on their heads every time they reach the surface to breathe. I shall obtain a couple of specimens of these for the Cape Museum. What the hippopotamus has on its body for these birds to feed on, I do not know. I noticed to-day several beautiful birds, one of the most handsome being a bee-eater.

21*st October*.—We had slept badly, owing to the oppressive

heat. A heavy fog accumulated throughout the night over the river, and cleared off again in the morning. The frogs begin to cry regularly, which looks something like rain. Since leaving the camp the hard basaltic rocks are gradually disappearing. I found on my way down from Boana these rocks frequently newly shattered into fragments, and was at a loss as to the cause, attributing it to lightning, but I now think it owing to their great exposure either to the sun or fires. The rocks which now take the place of the former are of a stratified or laminated appearance. Their external aspect is very black, but internally a yellowish-brown. Wherever abrasion has taken place they have a hard, smooth, and polished surface, full of little cavities, worn by the grinding of shingle and pebbles. The quartz rocks are yellow, and have a brilliant polish; high up against the sides of the banks, where only light particles of sand could be at work, the polish is exquisite. Some rocks have numerous agates embedded in them. Others have a scaly appearance, like the scales of a bulb or onion, and these are visible in circles at every point of rock which is broken; the outer crust is soft, and the inner hard. To-day we travelled more easterly; the river still confined by steep hills, and flowing between black rocks in a narrow worn-out channel, scarcely ever wider than 100 yards, and often as narrow as 30; its average width will probably be about 50. When flooded it will have an average width, so far, of about 800 yards.

We were so unfortunate as not to recover one of the hippopotami we shot, and, in the opinion of the natives, they were still at the bottom, or had gone higher up the river, to die in some quiet eddy. This morning I again saw some monsters, forming, to all appearance, a rocky island in the middle of the stream, but I did not fire. Last night our people were hungry, having brought no meat, but this morning I fell in with three koodoos, and shot them all in less

than three minutes: leaving the men to cut them up and make breakfast, I strolled on. I walked three or four miles, and, not caring to wear out my last pair of shoes by going back over the sharp rocks, sent for my breakfast, and remained at a small village of Mabekeri.

We had passed a rocky island in a narrow part of the valley, with trees on its east end, nearly a mile in length. A few stunted anna-booms (called moku) afford a grateful shade, but the second halt, three miles farther on, was under a large and very shady fruit tree, called motsekere, with brown bark, branches spreading upwards, and then curving downwards, and covered with bunches of fig-shaped fruit, which contain each four or five nuts. They are very much esteemed by the natives, who say they yield milk; leaves oblong, strongly ribbed, and go in pairs. A more magnificent tree than this stood near us also, and was covered with figs, which the natives also speak very highly of. Unfortunately for us, we have to wait three or four months for these fruits to ripen. There are rapids every mile or so in the river, and some of them nasty-looking ones to a landsman, but I do not think that even at this, the dryest season, a well-handled whale-boat would be in any danger. One or two little falls, of two or three feet high, will soon be smoothed over when the river comes down. While waiting here for Baines, who is ever indefatigable and sanguine, to bring up the rear from the Koodoo bend, a beautiful herd of koodoo, male and female, paraded themselves before me on the opposite bank, as if conscious of their security in the absence of a boat. I regretted much my inability to photograph so interesting a picture; beautiful animals, noble trees, comprising dwarf palms, baobabs, moku, mokachoñ, motseara, motsekeri, and fig, and the river flowing fast before us, between wild, black rocks, and the distant hills covered with sterculias.

In the afternoon we left the Zambesi, making a bend to

the north, and steered about east over the shoulder of a mountain, from 12 to 1500 feet above the level of the river. The sides of these hills are hard red sandstone. Where we parted from the Zambesi, we crossed a beautiful and strong fountain of mineral water, gushing into it from the south. This is called Masuna, and an adjacent river-bed, now dry, bears the same name. It comes down a deep and beautiful valley from the south, thickly wooded with fruit trees. Having the highest part of the mountain on our right, we passed through tall mopani forests. After an excessively hot walk of about five miles, we came to the Gwai, or Quagga, river. This river, which I had the honour of first making known in 1854, is a fine stream of running water. It has now, in the dryest time of the year, more water in it than I have seen the Vaal river have in some seasons. It flows down a deep and acclivitous valley, the hills rising abruptly over a thousand feet on either side, and covered with bare trees. A little valley coming into the Gwai, half a mile north of this, seems to be the dividing point of the large square blocks, layer on layer, of hard red sandstone. We found here a village of about twenty huts; this is only a portion of a larger village under Wankie, situated somewhere to the south, of which Shamusea is the chief. Several females, who were stamping corn, were well decorated with beads and cowrie shells, sewn on to the skin clothing, with holes punctured through the middle cartilage of the nose, in which they insert a straw full of beads. This shuts up the nostril, and must impede breathing to some extent. The men have the head shaved all round, level with the forehead, leaving the crown covered, but the heads of the females are shaved clean, like the Mashapatani. Their dress is like the Damaras, without the girdles. Baines felt very weak, and I advised him to return to the boat-building station.

22*nd October*.—In the afternoon, after Baines and Kapenyoka

had left, the chief, a man from Wankie's, and another one in a scarf and cotton blankets, visited us. The chief presented me with some millet (zemboe) and *Holcus sorghum* (matundi). I was exceedingly surprised to hear from him that there was a waterfall, and that it was at the junction of the Gwai. I was ready to start off at once, but he advised me to wait until morning, and he would give me a guide; so I made up my mind for the morrow. Next day I left early, with a severe headache. Saw some little waterbucks without their dams, and shot one: I mistook them at first for some strange animals, but learnt that the dam had been killed by dogs. These animals are so easily killed with dogs, that I have known them, in a few years, to become extinct throughout several districts. I observed a small herd of Vaal rheebucks high up in the hills, and fell in with hippopotami in another pond. Here I was successful, killing two and wounding a third. I then continued my walk in a chaos of rocks, washed down by the floods, which run thirty or forty to fifty feet high, and have done vast mischief; blocks as large as houses often impede our progress, and the solid rocks are full of rounded holes, like the inside of a pot, worn by stones and pebbles. I reached the junction at about 10 A.M. There is no considerable waterfall, but the meeting of the waters must cause a tremendous commotion. The Zambesi, passing by a narrow channel between perpendicular cliffs, rushes into the Gwai with a rapid descent of thirty feet or more, just at the junction. This is broken into several little falls, over a space of the last fifty yards or so, for the Gwai, notwithstanding that it slopes very much latterly, must rise to the height of fifty feet at least, to judge by the drift, and when full must be broader than the Zambesi itself. I do not know what effect the entrance of such a stream would have on passing boats. The natives point to it with terror, and tell me that some hippopotamus hunters, from beyond Sina-

mani's, went up as far as where we wounded the four hippopotami, and, having killed four sea-cows, tied them by the legs to the boats, and dragged them down the stream; and when they came to this place, the eddy took the boats round and round with the carcases, and sucked them down altogether. This was in about July or August, as well as I can understand; the people below Sinamani's are also described as going up to hunt these animals in their canoes. It must be a very wild scene, this, when the rivers are flooded, and the fifty feet of cliff on either side of the Zambesi are then probably covered with water. These cliffs form the base of a mountain or hill. It would be impossible to take goods along the banks of the Zambesi here, and I doubt whether men can get a footing. I noticed that, before reaching this place, water percolated through the red sandstone rocks in the sides of the mountains in several places. The inhabitants of a village we passed on the way fled, and clambered up the steep mountains.

Leaving our pleasant shade under the immense rocks, we turned back to look after our booty. It was only a couple of miles to the sea-cow pond, but I could hardly reach it, being seized with a great faintness, and my limbs giving way under me, so that I was frequently obliged to rest, but by bathing my head and face with cold water, of which I also drank, was sufficiently restored to crawl over the whole distance. We found the hippopotami floating dead, and two others swimming close by, with a host of crocodiles lying in wait for the prey. I gave orders to throw in stones, and beat the water with sticks, to drive them off, and then to drag the carcases in shore, while I sought shelter from the terrific heat of the sun.

I should have said that the Zambesi river at the junction runs about east and west, and the Gwai flows into it from the south, having made several bends in the course we had

followed from the village this morning. The crocodiles were driven off, the hippopotami brought ashore, and it was interesting to observe the earnestness of every one of my fellows over the first incision, inspecting the condition of the beast. The two surviving ones, it may be imagined, must have experienced a peculiar sort of torment in witnessing the dissecting system carried on by the Makalakas on the carcases of their companions. They put up their heads every few minutes for several seconds, and might have been easily shot, but we have meat enough and to spare.

The measurement of the male hippopotamus (a young one) is ten feet to the back of nostrils from the end of tail; the head measures from the back of ears to the nostrils two feet; about four inches more, including nostrils, brings you to the muzzle, and six inches more, downwards, to the end of the upper lip. Ears barely four inches, which looks very small on the head of such a monster. The muzzle is sixteen to eighteen inches broad. Tail about one foot and an inch. Eyes two inches. Nostrils about the same, and capable of being closed by inspiration, round and protruding when respiring. Lips and nostrils sparingly covered with coarse short bristles, all split at the points, some long and curly. The upper lip is of a very peculiar shape. (The female which I shot was said to be large, but I was too ill to go and look at it. The largest male I wounded is still alive.) Four toes, and the palm more elastic than the borèlè's, which is exactly one foot in diameter, though it measures only ten inches. It is not often one can get the measurement of a hippopotamus, as it is a very heavy and unmanageable animal, and must be cut up in the water. Head at base twenty-two inches broad and twenty-four inches deep. Tail laterally compressed like a rudder. Smallest circumference of fore foot of the young male, twenty inches, of the female nineteen inches. The hind leg retractile within the thigh, and when the animal plunges

to the bottom he can give a most dexterous kick behind. Baines tells me of one that stove in their boat with very little effort.

The hippopotamus utters a very loud startling snort and grunt. The snort of the war-horse is nothing to the majestic swagger of behemoth, as he rises triumphant from the whirling wave. His grunt at night, however, is the most loud and startling, and it is not at all wonderful when the capacity of his mouth comes to be considered; it is like the gruff braying of a donkey, but very much louder. His mouth measures three feet from corner to corner, lips square and straight, as if cut, and capable of being closely compressed to exclude air or water. The only part of the body on which there is a scanty supply of hair is the ears. There are sixteen grinders in each jaw, and two additional tusks having a strong enamel in the lower one. The hide varies from an inch and a half to two inches in thickness. Neither the hide nor the head offer any impediment to a hardened bullet, though death does not necessarily follow.

These animals go over rocks without any seeming inconvenience, and travel two or three miles away from the water during the night in quest of grass, which is scarce just now. The high and rocky hills here seem to be no impediment to them, for they appear to climb with cat-like facility. There are six incisors in each jaw of the hippopotamus. The two middle ones in centre of lower jaw, straight and protruding forward. Two additional little tusks, or canines (?), in upper jaw between the grinders and the incisors—a complicated machinery altogether. These are easily killed with the aid of dogs during the night. When these attack them they become quite stupefied, and stand still. They are one of the animals doomed to early extinction when fire-arms are introduced, yet not so soon, one would think, as the elephant and rhinoceros.

24th October.—I notice that the last few days have made

a change, unless it be merely a local feature, in the appearance of the trees, which are here now beginning to throw out their young leaves in spite of the long absence of the rains. Towards evening, with the accumulated heat of the day, the rocks feel as if they could broil meat in a short time. We never see a snake now, so that they must be passing these months in a state of torpor, until the shade of trees and the rain cool the earth. This is worthy of notice, because it is a generally received opinion that snakes delight in a scorching heat and hot sands, while nothing is farther from the truth.

26th October.—I returned to Shamuzia's village to get back to our road, climbing the steep sides of the mountain to gain the top, over which we walked on a gentle descent towards the Zambesi, which we reached at 10 o'clock. Here we found two or three little villages on either side, and the baboons had coolly taken possession of the gardens, in which they were pulling up the young melons in sight of their owners—their antics quite human. Shandu, the head of one village, presented me with millet, and a small basin of beer; another also brought a basin of beer, which, however, I cannot drink, though it is better than the Bechuana beer. They are very friendly, but rather frightened and suspicious. We passed over nothing but sandstone this morning, and saw, for the first time since leaving the desert, a few mogonono trees. This country is scarce of game. The sun is frightfully hot, and, living on nearly pure meat, one is unable to go far without water. As we left this village, at about 3 P.M., two of the natives ran to meet me as I passed, to present on their knees a little millet and a few ground-nuts. It was a trifling gift, but was bestowed in a manner which showed they could expect nothing in return. This is unlike the generality of the Bechuana tribes. The people at this village possess a boat, and would have given me a passage to

Shabby, their chief, who lives five or six miles farther eastward; but they were afraid of the consequences of taking a stranger over without the chief's previous knowledge and consent: they therefore respectfully begged to decline, but gave us a guide to Shabby's. They promised me a boat back past the junction of the Gwai, which will be a great lift; and we must try and get a passage from here backwards also, as the hill we climbed this afternoon is something frightful for human beings. I saw this afternoon, on the ridge running parallel with the river, an old enemy, the sickle-thorn of the desert. The hills here open, but are steep, and of great altitude. The river is broader, and its valley, not so deep and confined, offers one of the finest views to the eastward that I have seen for a long time, with a neat village of new huts on a plateau, forming the summit of a slope to the river, and studded with shady trees. On the left of the village, over the river, is a gorge of sandstone, partially concealed by five or six large green trees. The slopes are of a rich red sandy soil, under cultivation. At the back of the village, to the north, is a range of hills three or four miles distant. On this side the river we are encamped under a dwelling, in the upper story of which I meant to make my bed. We had some difficulty to induce the natives to come across, though we had their own people with us. Two young men at length came, but the chief is afraid as yet.

Shabby came over with a rather formidable array, landing at two points, with five men in each boat, and each carrying five spears and a battle-axe. I looked upon these demonstrations as arising rather from fear and distrust than from any hostile intentions. The chief had to undergo the usual ordeal of being taught by our guides how to behave himself, and squatted with the usual "*lumela khosi*," very humbly but very awkwardly. He presented me with a

small basket of mealies, and wished us to sleep to-night at his place a little farther on, while he sends to prepare Sinamani for the evil we may bring upon him. This he proposes in order to avoid getting himself into trouble, and as this is Sunday, and it coincides with my intention, we give a ready assent.

I noticed here rock-rabbits, and a brown chatterer (*Crateropus Jardinii*), with a broad deep brown tail, light brown on breast, which, with the throat, is speckled. They are very noisy birds, and nervous in their movements. Nasty headache this morning.

Shabby tells me that the Mambari traders pass north of this to Sekelètu's, and also come to Sinamani's to trade. I have since found this out to be a mistake. No Mambari have ever been at Sinamani's; but, as one of Dr. Livingstone's party was a trader, they call them Mambari. There are no elephants here, nor any other animals that I can see the spoor of, excepting quaggas. We shifted our camp to the shade of an m'pemèla tree. These are pretty trees: the fruit and flower have a long tendrilous stem, on which hang either clusters of velvety dark crimson, or pomegranate, or dahlia-coloured flowers, and large, heavy pods, two or three feet long. The seeds are eaten, but are not nice. Oil is expressed from the seeds for anointing the bodies. The flower, which is couch-shaped, is six inches in diameter; four-petaled corolla with four stamens, with yellow down at base, and the pistil also yellow; on the outside this colour preponderates in ridges. The flower also is of a thick, fleshy texture; the leaves are six inches long, oval, and just now very much perforated by insects. I have not seen a palm tree, except a few stunted ones, since I reached the river at Wankie's. I sent all the young men back this morning to fetch the flesh of two quaggas I had shot. They were beautiful specimens, male and female; the male very darkly striped to the hoofs,

and the stripes at the back joined to the dorsal line, forming beautifully eccentric markings. The female, not joined to the dorsal line. I had the tongue of one for breakfast. There are no tsetse here. In the evening I went on three miles, and crossed the Mapato (a fine stream) at its junction. It comes a long way from the south. Shabby's gardens extend down either bank all this distance, and beyond for another mile.

27th October.—Shabby came over rather late, but we started at once. After two miles we crossed a dry river coming from the south, called Nacheboè. Two or three miles farther down we came to a village of Mozamba's at a bend of the river, with a rapid formed by a reef of rocks projecting across the bed of the river. This will be from four to five miles this morning. I wished to go on, but Shabby advises staying here till the sun gets cool. The ground we walked over is a brown, rich, unctuous earth, all of which is or has been under cultivation. Fruit trees are very plentiful, &c. Last night the chief brought me a dish of white flour and a melon as a present.

I was astonished this morning at seeing the natives harvesting their mealies, melons, and tobacco at this time of year. They must have two crops annually, as they have just planted one, or are about doing so. The tobacco grows to the height of seven or eight feet, and has fine broad leaves, but they do not know how to treat the article. The river is gradually getting broader, the hills lower, and the spoor of elephants, buffaloes, and hippopotami are again visible. It is a pity we could not have got our things down as far as this before commencing in earnest to work.

The villages are now more numerous than ever. I have passed through nothing but gardens all the morning. The natives have fowls and dogs, their only domestic animals. The men are fine stalwart fellows, but go very nearly naked,

having only a small strip of leather in front. The women are well dressed, their skins or skirts tastefully decorated with beads sewn on in squares or triangles, also with numerous cowrie shells. The stick of beads thrust through the cartilage of the nose is rather ungainly. I saw one or two of the Batonga this morning, quite as light-coloured as the Hottentots. The men have their ears punctured, and wear earrings. The chiefs have all some cloth covering, or scarf, either of African or European manufacture. I do not think it right to impute their nakedness to shamelessness, but to the real want of skin-clothing, small game being very scarce in the country; and they have no cattle, or sheep or goat-skins to fall back upon when these fail. I think, therefore, that European cloth will always be in great demand with them. Why should not missionary institutions work better amongst petty tribes like these, dependent on European commerce, than amongst large tribes governed by a tyrant, to whom it is generally more inconvenient than to any other member of the tribe to become a Christian?

I notice that they prune wild fruit trees here. The natives carry a horn, on which they blow to frighten away the elephants out of their gardens or out of their path. On my road this morning I heard, to my surprise, that it would take until to-morrow to reach Sinamani's. We halted, after a walk of four or five miles, and are to stay over until nearly sunset before moving on again. Much time is consumed in this manner, and numbers of visitors are meanwhile advancing from all quarters to have a look at the first white man they have ever seen, and I am being made a show of at the expense of a great deal of time wasted. This evening we are to stop at Sanchobie's, the first chief under Sinamani (pronounced Sinaymani).

In the afternoon we passed two little rivulets, Givèbalo and Makula, and next the village and gardens of Mademma

—a man under Sanchobie who lived a mile farther down—opposite a rocky pass in the bend of the river. We had a wearisome delay at each hamlet, and I find, to my annoyance, that a good deal of it is caused by the necessity there seems to be of sending on to give warning at every village of the approach of so important a personage as myself—a beard twelve inches long never having been seen or dreamt of in these parts. I shall be glad when I get into Dr. Livingstone's route. While waiting the result of a great talk between our guides, a gourd floated by, and a quarter of an hour after a crocodile of immense size swam past with his eyes above water, and making straight for it.

Here I found a recent grave with a monument formerly common, but which, at the present value of ivory, might be expensive. It consisted of four fine tusks of ivory, two on each side, forming an archway over the grave. The ivory was still quite good, and if they only knew its worth to us I dare say they would soon be lying amongst our stock. Not wishing, however, to disturb the graves of the dead, I gave them no hint on the subject.

A hut was pointed out where I might sleep, and I sent to Sanchobie to say he must provide me guides at daylight, as I did not wish to travel in the heat of the sun while suffering under the severe headache which I had for some time experienced. The night was a very disagreeable one. The wind blew with great fury, upsetting my shelter, and, in spite of the wind, I was bathed all night in a constant perspiration. Yesterday I saw some tamarinds (*Tamarindus Indicus*), a thing I did not know to exist in the country. A tree was afterwards pointed out to me. I bespoke all the tamarinds, as I wish to take them back to Baines and John.

28*th October*.—Crossed a river called Sebungo just after sunrise. About five miles more brought us again to the Zambesi, opposite a range of mountains a few miles to the

north, called Seoko. This may be part of the range which Dr. Livingstone mentions as Thaba Cheu. Sinamani's Town is on the opposite side, probably a mile or two down the river yet. Sinamani sent to say the wind was blowing too hard for him to risk his life in a boat, but he would come over to-night and see me; so passes another day in idleness. I saw several of his people this morning. They have their heads shaved clean, excepting a small tuft, such as the Indians would desire to scalp by, and their bodies ornamented with cicatrices.

The natives here have two crops regularly: the one is planted after the inundations have receded in the winter; the second crop is planted far up above the highest water-marks on the neighbouring hills in October and November, and depends upon the summer rains, which commence in November. The river here, though a quarter of a mile broad or more, must have a strong under-current, placid as it may look above, for I see the natives have to drag the boats a hundred yards or more up stream by the side of the banks, and then pull dexterously for the opposite shore, often missing their mark.

Towards evening Sinamani and his suite arrived. I expected to meet a different person; his humility is extreme. It is not at all disagreeable to have chiefs and great men at your feet, considering that it is not to rob them of states and territories that the interview is sought, but merely to establish a good understanding between the parties; and it is necessary that savages should feel a sense of their own inferiority, otherwise our safety would sometimes be in jeopardy. It is only this feeling, a sense of superstitious dread, that protects the solitary traveller through thousands of barbarians: the indifference also which a European exhibits on visiting single-handed a host of often treacherous savages like themselves is to them incomprehensible; they

would not think of doing so themselves. We are a mystery to them, and in the self-imposed belief that our lives are charmed, or that we are protected by some invisible power, lies our security.

Sinamani, who now paid his respects to us, is a short man, and about thirty-five. The expression of his face does not bespeak him what one would wish, but I hope appearances in this instance will turn out deceiving. I dare say that excessive smoking of matokoani (wild hemp, or *hashish*) has

BRILLIANT METEOR ON THE ZAMBESI RIVER.

damaged his looks. He boasts only eight wives. His promises were good: "The river is yours; there is no waterfall; I will bring you away to the next tribe." He ranks under Sekelètu's banners. He has no ivory, but says, significantly, that some trade will be done in front—which means, I suppose, that he will send some ivory on to the next tribe to sell for him. He knows Dr. Livingstone, also the doctor's brother Charles, and Dr. Kirk, and has heard of us, and our intentions at Mashotlaan's.

Sinamani's eyes, and those of all his suite, sparkled wonderfully at the sight of the beads, blankets, and other things I gave him. He seemed not to understand that they were for him, and that he was an object of so much attention. While I was talking with the chief, his men had got into conversation with our Makalakas, and persuaded one nice little fellow that his father was over the river, having sought refuge there from Moselikatze. He was for going over at once, but I put a stop to it, saying he could go with his father if his parent would come and show himself. They afterwards pretended that his father had gone to Wankie's in search of him. I interfered in this business, as I know they deal in slaves, and kidnap or entice all young lads like these.

I did not bring with me any instruments for taking the heights, or determining the position of Sinamani's Town; but I do not think the latitude of Dr. Livingstone will be far out. A large range of high mountains, about two miles south, probably reaching 2000 feet above the river, I should like to call after Sir George Grey. Sinamani's, perhaps, lies 500 feet lower than our station, which is about one-third of the way between this point and the Victoria Falls, or nearly so: the latter are about 1000 feet higher than this, so that in the intervening country between Sinamani's and Tètè, about 600 or 700 miles, there will be very little fall in the river, probably not more than 500 feet. I noticed in coming down the river that there were square rents at short intervals, very similar to that of the Victoria Falls, across its rocky bed, in about the same direction, 120°, forming a creek on either side. The river is a succession of rapids all the way; but at intervals of a mile or two, and sometimes at greater intervals, say five miles, and in the whole distance, perhaps, there may be two that can be called Falls, but these are only five feet high.

I found the heat at Sinamani's very great, and felt during my stay there as though immersed in a vapour-bath. The native population is becoming very dense; the gardens and corn-fields very extensive and rich. Ashes are used as manure. Many of the gardens are surrounded by pitfalls, and are set all over with snares for antelopes. The people whom I met going on a journey carried a bundle of light wooden javelins, poisoned at the tips, and weighted with a composition of clay and buffalo-dung. None of the natives that I have yet seen have any cattle or goats, but fowls and dogs are common. The latter are very small, but have great spirit and endurance, enabling their masters to kill the largest animals with their aid.

I picked up on the way hither a parcel of fine long-stapled cotton, but have not seen any growing. Some few of the people have European rugs, and others of native manufacture brought from the east; but these are very rare things. Indigo is indigenous to the country. I saw it growing in quantities on the sandstone ranges east of the Gwai.

CHAPTER VIII.

Rain-Doctors—Matabele Outrages—Return to the Gwai—Scenery of the Gwai Valley—Geological Conditions—A Buffalo Chase—Rhinoceros—Tsetse again—The Batonga Language—Musical Performances—"God Save the Queen!"—Native Cookery—Difficulties with our Followers—Progress of the Boat-building—Logier Hill—The Luluesi River—Mourning for the Dead—Crocodiles abundant—Baboons—New Quagga—Reach the Wagons—Results accomplished to the Present Time.

29*TH OCTOBER*, 1862.—I put up my tent last night in expectation of rain, but only a few drops fell. It would seem, however, that this incident procured me the reputation of a rain-doctor, for the natives, men as well as women, set to work in the morning, as busy as ants, hoeing, raking, planting, and burning weeds; many threw down their hoes, some ran away with fear, the women going down on their knees as I pass. This country must some day be occupied by white men, when I expect the grape-vine will become the principal object of cultivation on the banks of the river. The soil is as rich as could be expected, and, like that on the Grobbelaars river, in Oudtshoorn, which is the best soil in the colony, it is more loose, and not likely to nip things springing up, when the ground dries after a shower. I met a large troop of baboons returning from a foraging expedition in the native gardens, and as they did not seem to care much about us, I dropped a large fellow from the top of a tree, much to the amusement of the natives; they took the animal for the sake of the skin,* and the skull they

* No other tribe to the south would wear a baboon's skin, but here the want of small skins and cotton clothing compels them.

intend sticking up as a scarecrow to other intruders in their gardens. I have sometimes seen a whole garden surrounded with these ornaments stuck on poles. They very much resemble human skulls, and make at first a disagreeable impression. I made this morning a march of about 12 miles, and when I rested under the shade of a magnificent motundo tree,* several men, women, and children gradually took courage to come and see me. They were as much an object of interest to me as I was of dread to them. One young girl, a refugee from Moselikatze's country, had on a peculiar dress, a mere narrow fringe of twisted cords made of mokhokè, here called molala (a species of *Sanseviera,* or bow-string hemp), and only a little longer behind than in front.

The people here have not yet recovered from a panic struck into them a few days before my arrival, when a large party of Matabele warriors massacred thirty young men who were hastening back to their homes, and had just come within sight of them. The Matabele make terrible havoc when they surprise any villages on the south side of the river, killing the old and middle-aged men and women, and carrying off into captivity all the young ones. There can be nothing more cruel than the brutal manner in which they destroy life: but what can be expected from a nation trained from childhood to the most ruthless and wanton butchery? The whole aim and ambition of the early life of a Matabele is to slay his *first man,* from which date honour and glory are ranked according to the number of his fellow-creatures he has destroyed. From what I can learn they have an outlet for a portion of their captives, whom they sell to the eastward. The dread the people here have for Moselikatze is something extraordinary, considering that they are such fine men, and

* A very pleasant fruit, already described by Dr. Livingstone ("Missionary Travels," chap. xxix.).

are accounted brave in their contests with the elephants and other animals. The population here is very dense, the unsubdued and refugee tribes from the south being, as it were, crowded into this locality against the river. They live chiefly on the north side, and plant chiefly on the south. The soil, however, has capabilities for the support of even a greater number; and the wild fruits are very abundant should their gardens fail.

In the afternoon, as the sun was behind the clouds, I ordered a march, but as soon as it appeared the Makalakas dropped off one by one, to cool themselves in the shade. I pushed on to Shabby's, about six miles, and felt as if my brains were baked, the perspiration running from me in a fearful manner. Shabby visited us at night. I offered to buy corn or anything eatable, but they do not like our beads, which are so precious to the Matabele, Makololo, Bechuanas, and other tribes. They prefer either the coarse Portuguese bead, or cloth. To-day I met some people carrying what they call salt for sale beyond Sinamani's. It is mere ash-coloured earth, with a slight saline effervescence. I find they tan their clothing with the wood of a tree they call omkura. It is a very brilliant reddish-brown or purple.

30*th October*.—After a sleepless night we started at daylight, and made eight miles in good time, halting at the village of Seantubbu. I left the usual path, so as to be near enough to the river to notice any formidable rapid or waterfall that might be in it. It is, however, utterly impossible to keep in sight of the river all the way, owing to the steep and precipitous nature of the hills and cliffs on its banks, and the natives refuse to give me a passage in their boats, which they consider too small to be safe for "a great chief" like me. They maintain that there is no waterfall, and I can believe it. I think their reason for refusing to take me in the boats is, that the labour of paddling up stream would be too great,

for I have seen the difficulty they have in crossing at Sinamani's, where the river is broad and smooth. I should not wish to have frequent experience of the trouble we had this morning in getting down to the river, and within reach of shade, for, besides having ruined my last pair of boots, there is the constant danger of being precipitated over rocks 400 or 500 feet high into the stream beneath, wherein float voracious crocodiles ready to devour you. They have a diminutive appearance from these high places. It is in such spots the people seek shelter from the Matabele. The path to this place is for the last mile against the steep slope of a rocky hill, almost a cliff. They find their way by following a blaze, or the marks of an axe made at intervals on the trees.

While coming over the hills this morning I noticed two ranges of mountains. The farthest and highest is about 20 miles south, and runs eastward or north-east, as far as the eye can see. They seem to be considerably higher than the hills north of Sinamani's, and are farther from the river. I should think this a very eligible situation for commencing a mission, offering as it does a speedy communication overland with the Cape by way of Moselikatze's country and Kuruman, with great facility of conveyance by water from the east coast.

In the afternoon, as the thunder-clouds began to obscure the sun, I took advantage of the coolness, and made a march of 14 miles to Shamuzia's, on the Gwai. The clouds burst, and we got thoroughly wet. I saw three snakes; these reptiles are beginning to come out now. The birds also seem delighted at the shower, for I have not heard them so musical before. The "quagga dzerra" (*Prionops talacoma*) has a soft, sweet, and pleasant note; partridges are plentiful. The descent to the Gwai was nearly as difficult as that to the Zambesi. It runs down a narrow defile. The hills on

either side are 800 or 1000 feet high. One detached hill just here, a mile or more in length, and 800 feet high at least, presents at the back a wild and picturesque scene, with its red rocks of sandstone piled with mechanical exactness in layers of large square blocks, one upon the other, and various euphorbias, cacti, sterculias, red-crowned aloes, and other strange plants, growing thickly against its sides; while at the bottom of the narrow defile mopani trees, sixty and eighty feet high, seem as if they would go on growing for ever. Some perfectly leafless forests through which we passed have a most dismal aspect, the thousands of closely-planted trees seeming not to have a vestige of life in them; but, now that they have tasted the shower, they will soon be blooming again. The sandstone rocks on the top of the ridges work upon my boots like rasps; they have generally a water-worn appearance. Large flat detached slabs, sometimes piled one over the other, stand like pillars amongst the trees or against the sky.

I am no geologist, but it strikes me that the formation noticed by Dr. Livingstone on the north of the Zambesi, somewhere about the junction of the Kafuè, already commences here, on the south of the river. For instance, all west of the Luluesie river we have nothing but basaltic rocks, and a sprinkling of annulated agates, and quartz crystals here and there—spherical pieces which, if broken, are found hollow and beautifully crystallized within. Some of these have a green coating outside, as if impregnated with copper, but it does not answer the test of nitric acid. Then there is a reddish kind of rock, very much speckled with small white pebbles, or larger lumps of a radiated crystal or zeolite. Some of these rocks seem to be igneous, hard, and firm, but in other parts, especially when radiated crystals appear, they are in a decomposing state. Near the source of the Luluesie (Daka), there is a vertical stratum of sandy

schist. I have seen no mica schist all the way to Sinamani's, nor granite, and I have in hunting gone over pretty nearly all the country between there and the Falls. On this stratum are square pieces of calc spar (which the Bechuanas call sulumèle, believing it to be fragments of fallen stars). The sprinkling of mica that is in the Zambesi's bed must have been washed from the north side. The Luluesie or Daka river is the limit of the basaltic rocks, presenting formidable cliffs of red sandstone, while the western banks have at intervals mural cliffs of basalt, and thus throughout the whole distance which I traversed (upwards of 80 miles), I have seen no red sandstone west of the Luluesie, nor basalt east of it, excepting only in the banks where the river, by an abrupt bend, has encroached on either side a little. The eminence adjoining the right bank of the Zambesi, which Baines proposes to call (after a friend of his) "Logier Hill," is of tufa, dipping eastward, and along the east bank of the Luluesie extend higher ranges of red sandstone all the way to Sinamani's, with some large silicified trees already mentioned. Baines thinks that the rock in the bed of the Zambesi, at Wankie's, is what is called altered sandstone; it is a fissile or laminated brittle rock, with a glossy coating where influenced by water, but of a yellowish-brown colour inside (perhaps shale). The rents and reefs mentioned before run about north-east. The other grey scaly rocks seam in it near to Wankie's. The outer scale of this rock is easily peeled off, and is brittle, but becomes harder towards the centre.

31*st October*.—Start at daylight, and breakfast at an old halting-place on the Zambesi. We moved on again about three miles in the greatest heat of the day, in order to get to our Koodoo camp, and recover a wounded waterbuck before the vultures had it. The sun at 2 o'clock being hid by the thunder-clouds, I walked out in the hope of getting some-

thing to eat before night, while the men were making a small hut against the coming storm. Bill had come ahead, and fired at two troops of buffaloes, without killing any. I took up the spoors of one small troop that had fled, but both the wind and their friends, the khala birds, had given them warning. I followed in pursuit, through the breaking undergrowth, and had a lengthened chase, which seemed at one time likely to involve my passing a night in the woods.

1*st November.*—The tsetse are very troublesome this morning. We did not notice them here in going, nor at the last halting-place. I think there must be "fly" from near the west bank of the Gwai all the way to the Victoria Falls, and beyond to the junction of the Tamalukan or Lingalo's river, near Lake Ngami. Beyond the Gwai to Sinamani's I feel pretty confident there are none. There is no access to the Zambesi with bullock-wagons, nor hunting on horseback, nor with dogs, in these parts, unless with great sacrifices, nor can I find a wagon road, owing to the broken nature of the ground—rocks, ravines, and mountains—even where there is no "fly." I think beyond the Gwai, however, by the Mopako or Sebungo rivers, a road may be made from the south, if there is no "fly" at the back. There is none on the Zambesi river, but this may be owing to the density of the population, and the scarcity of buffaloes, which are so much hunted by the Batonga on account of the ravages they commit in the gardens. The people, however, confess that they are sometimes no match for these animals at the time that the corn is growing up, nor for the elephants, which storm their gardens by daylight. Many of the gardens I noticed here completely surrounded by pitfalls, as a trap of defence against the buffaloes. Down the Daka river, too, I think a road might be found as far as the river, though a district infested by "fly."

At Sinamani's I got, with the aid of an interpreter, a few hundred words of the Batonga language, for a vocabulary I was collecting for Sir George Grey. I have now Sechuana, Bayèyè, Ovambo, Hottentot, Sekalaka, and Batonga: Matabele, Sekololo, and Bushman, I have yet to get. I am glad to find that the languages here are more like the Damara on the west coast, which establishes, in my opinion, a decided connection between these tribes. I am sorry I am not linguist enough to do more than give merely a list of words, without comment. If the list I have can be of any use in tracing a connection between the people of the east and the west, it is all I have had in view, saving what I wished to know for my own guidance in conveying my wishes and meaning to those I meet. It is not alone in the affinity of languages that a connection can be traced between the Damaras and Batonga, but in the practice of knocking out the teeth. The Damaras file the middle upper teeth swallow-tail fashion, and knock out four middle teeth in the under jaw. The Makalakas or Bashapatani file the upper teeth, like the Damaras, with a stone; the Batonga knock out the two upper front teeth with an axe. This causes the upper lip to sink away, and the lower to protrude: the under teeth having no work, and no abrasion, grow very long, giving them a very peculiar, disagreeable, and sour look. This rite is practised as a sort of circumcision. The Damaras knock out their teeth also to make them lisp, as nobody is considered to speak Damara well unless he can do so.

It is strange what queer practices there are amongst some nations. I thought this morning we were quite in a lonely part of the country, but for the last hour a score of people have been clapping their hands vigorously, while telling their news in a kind of chanting strain, reminding one of a practice sometimes pursued in infant schools. The people here—the Bashapatani—have a real notion of music, of which they

are very fond. I have seen some of them going on a journey of only 12 miles take their instruments with them. They play a variety of sweet tunes and waltzes, and the instrument, in the hands of a skilful musician, sounds very well, like a large musical box, but is not so pleasing when performed on by an amateur. Some of them also sing well, but others are mere discordant bawlers.

We have still a small supply of meat on hand, but it will be as well to take time by the forelock, and get a further stock for the larder. I have managed to keep thirty savages well fed, have given much away, and sent a good supply to Baines's station already, besides what we are taking with us now. I cannot, however, accuse myself of having wantonly directed my rifle at any animal, and there are always people to pick up what we lose. On the contrary, though my gun has dealt death amongst some few buffaloes, rhinoceroses, and hippopotami, it has been an instrument in dispensing its blessings to many who were hungry, and who dare not settle down to till the soil. Were one to go about and try to kill all one could, much mischief might be done, for I believe that ten tolerable marksmen, with rifles, could support an army of 1000 men across any part of Africa where guns are not in general use. My people (the Makalakas) frequently, on seeing an animal in our path, present me with a gun, and are very much disappointed when I do not fire. They cheerfully carry the skulls of rhinoceroses and hippopotami on their heads for 30 or 40 miles, and would carry them 80 miles farther to the wagons if I wished; all they expect is to be well fed. They soon, however, find out an unsuccessful sportsman, and avoid him.

I hear that Wankie has fled, in consequence of a report that the Makololo are coming to attack him. He has not gone from his old place. I wished to learn what was his offence against the Makololo, but the black fellows

laughed heartily at the idea of the Makololo making war for offences. "If people have cattle," said they, "the Makololo kill them for their cattle's sake; if they have not, they kill them for their children; and if they have neither, they kill merely to kill. Are not they Mapoono?" (a term for the Matabele.)

The Makalakas, my followers, are quite cheerful, dancing and singing merry tunes, to which a waltz or polka might be danced. Some fifteen or sixteen young lads, who had seen and heard the Batlapians from Kuruman singing hymns, imitate them wonderfully well. It is somewhat strange to hear the tune of "God Save the Queen" sung by a number of naked young Africans, in parts where the foot of white men never trod before. I can only conclude that the Kuruman missionaries must have adapted that stirring melody to one of the hymns sung in their church, and that it has thus found its way here, as most of these lads have at one time or another waited upon the Bechuana hunters and traders from Kuruman, before they had to flee thus far north from the dreaded Moselikatze.

Whenever I shoot anything, no matter how good the supply, the cry is, "What a pity it is not an elephant!" or, "How small!" or, "How lean it is!" They never waste anything; the hide, entrails, and the offal, all are eaten, and the bones chopped up and boiled. The blood is carefully gathered and put into the entrails, which hang on the trees like large sausages. This is parboiled, and then dried in the form of crumbs, and is in a state of preservation for a length of time. As often as they boil a potful of meat a few of these crumbs are added, which makes the soup rich. The fat, melted or skimmed off the gravy, is eaten with soft boiled meat, which, torn into shreds, is dipped into the dish of fat, all four fingers undergoing a good immersion, and being licked clean at every mouthful. Each one has his turn for cooking a potfull, on

which each one invites himself, and the owner divides fairly the contents before he touches a morsel. Not being able to count well, or to calculate, I have often seen them cheat themselves.

Sunday, 2nd November.—Finding it tiresome work to lay under the shade of a tree two whole days, I determined on walking to Baines's quarters. The sun was so powerful that after 9 o'clock I was obliged to halt, and a sea-cow lying asleep in full view, and it being so near the camp, I fired at her. She fell back with her jaws distended, and, struggling for a few moments, sank. Her calf then coming out of the water, bellowed lustily, and, though feeling some compunction, I decided that, having robbed the poor thing of its mother, the best thing was to put an end to it. I therefore shot it, but it tumbled into the stream, and was swept away by the rapid. Leaving two men here to watch their floating, I left for the camp, which I reached at night.

3rd November.—John made known to me his determination to leave us, and go back to the wagons, no matter what the consequences might be. I remonstrated with him, advising a shorter journey to some healthy region, where he might rest and recover his health and spirits; but he most decidedly refuses, preferring to return at once. He will not assist in any matter connected with the boats, even if he get well, either by sawing wood or shooting meat for the camp. I have never asked him to saw wood, nor did I expect him to go hunting while he was unwell; but it certainly was his duty to help us to the extent of his ability. He has been of little or no service to me since we left Damara Land, and it is clear that he is getting sick of the journey. I incline to think that his discontent arises from some disagreement with Baines, and he has an evident disinclination to work for him, or under his orders, any longer. He pretends to believe that

Baines has no real intention of getting the boats finished, and that, instead of making progress with them, he spends his time in painting, while he is himself losing health and strength in shooting game for Baines to give away in presents to the native chiefs. Such are his excuses for deserting us at a moment when we really need his services.

This morning I saw from my bed a huge hippopotamus walking on the island immediately in our front. These animals seem to have returned hither, and have been very noisy all day. I took the height of the limestone eminence which Baines calls Logier Hill. Water boiled at 209° (therm. 80°); down on the banks, about twenty feet above the river, it boils at $209\frac{3}{10}$° (therm. 89°), showing a considerable difference between this place and the Victoria Falls. Dip eastward. Latitude of Logier Hill, 18° 4′ 31″. I planted some almonds and tamarinds here. The house is infested with lizards (geckos); they feed on sawdust and insects. Flies are very scarce, which is a wonder, but I notice a brown dragon-fly here, which preys on them. They are found in decayed hollows of trees, and have always a fly in their maw, on which they are feeding. They make a loud booming noise, and are quick on the wing.

5th November.—I am glad to find that Baines had made a commencement on the boats, as it will inspire those who are to form our party on the downward trip with some confidence. He has set up the framework of one boat, each of them being intended to be 28 ft. long, with 4 ft. 6 in. beam. He thinks we may reckon upon their being completed by the 1st of January. I really trust they will be, for it is time to be getting homeward. We have been five months in this country, and have done nothing. Of course all now depends upon Baines, and he is single-handed. I have, indeed, sent about a dozen Makalakas to assist him, but two white men would be more serviceable. I shall send Anthony and Jem

also. Meanwhile I will go to my wagons, to make arrangements for their return, and write my letters for Cape Town, to go by Reader. I must relinquish the intention of going to meet my brother. I propose settling myself somewhere between my wagons and Baines's establishment on the Zambesi, midway or about 40 miles from each station, where I can hunt, in order to supply both with meat.

Wankie having readily furnished guides, I started for the Daka or Luluesie river, wishing to go up it, as I have an idea there is a better road that way than round about viâ Matietsie. John also follows, determined to go straight on to the wagons, instead of proceeding by easy stages, and resting himself at intervals on the way. A march of 10 or 12 miles in a direction about south-west, having in view the lofty Gasemèla mountains on our left, brought us to the Luluesie river. The country we passed over is much more pleasant walking than the Matietsie road. The hills, however, are strewn with quartz crystals and basaltic fragments, which rasp one's boots and hurt the feet. It seems to me that a wagon-road, were it not for the "fly," would be practicable. But "fly," if there are any, must be very few, as I could see none.

North of the Luluesie river, we have the same basaltic and white and chocolate-coloured rocks as at the Falls; but on the south side the hills are higher, and of red sandstone, against which euphorbia and cacti and fig trees climb. The course of the Luluesie seemed to incline northward, towards the Zambesi. We slept a few miles farther west. Next day we continued following the course of the river, through country of the same description.

I got a glimpse of a herd of buffaloes, and ran after them four or five miles without getting up to them, as they always kept down wind. I made a march of 16 miles, besides running after the buffaloes, and was very tired. The fine

stream of water in the Luluesie suddenly disappeared this morning, and we find now only stagnant pools in its bed, in which fish and crocodiles are floundering in a loathsome manner. When I can, I prefer getting my supply out of the gravel-bed, which I observe is what the elephants do rather than drink the green and foul water. Some pools are covered with a deep scarlet scum, or fungus, which makes the pond resemble blood. We travelled on till night, and met with a small travelling family going to Wankie's. They were poisoning the pools with a root called n'damba as they went along, in order to kill the fish. The water has a slight peppery taste, and seems to act medicinally on the stomach; it made me very weak.

The Luluesie, which has its source at Daka, produces a rank vegetation, and its valley, I should imagine, must be very liable to fever. We have frequent occasion to cross it, but it is quite a toil, creeping in the paths of wild beasts underneath the sharp, prickly, and matted reeds, and startled every few seconds by the loud splash of a crocodile tumbling into the stream, or crashing through the reeds before us. The number of buffaloes that visit this river must be very great at times, judging by the abundance of dung, which looks like a very old cattle kraal, where hundreds of cattle sleep every night. The little strip of soil is consequently very fertile, but there is no one living here since Wankie fled. The buffaloes also have left within the last week or two, having probably smelt the green grass somewhere a very long way off. Elephants' dung is plentiful; but those animals, too, have migrated. I found the skeleton of a recently killed young elephant, and drew his teeth, and we also picked up a good lump (twenty pounds) of ivory, broken off of an elephant's tusk.

We made another hut about 16 miles from the last, under a clump of motsekere trees. I am building huts at dif-

ferent stages from the river, both as a protection to the goods from rain, and the people from lions, &c.

7th November.—I had a long chase after a troop of buffaloes, without getting up to them, and made 16 miles. I saw three of these animals in the afternoon, but they had long got our wind, and went off. I made a good long shot at a wild pig, which afforded a supply for our larder much needed. After sunset, as I lay very tired, the men came running in to report a rhinoceros, which I shot close to the hut. I must have walked upwards of 50 miles during the last three days, which is very good work in the present weather.

Before leaving the Zambesi last Wednesday, I heard a great wailing at Wankie's, on the opposite bank, and asked who was dead. The people said no one had died recently; the wailing was for one long since dead. Their mournful cries were more like those of real grief than the affected formal wailing of the Bechuanas and Damaras. But this coincides with the Damara custom of periodic mourning, thus establishing another and a greater affinity with the latter people on the west coast than with those intermediate.

The river winds a good deal. The hills eastward are still lofty, and composed of red sandstone, even to the banks of the river, sometimes forming tall cliffs 200 feet high, one portion in particular looking so like a castle or battery that I have named it so in my sketch. Against the face of some of these cliffs a species of fig tree grows, and clings by its roots to the hard rock, gripping it as with eagles' talons. Sometimes the roots extend over a large space in straight lines, like so many ropes stretched to their greatest tension.

In the course of the day I stumbled over the lair of a leopard. He bounded out, snarling, and, not having my gun, he escaped scot free. I saw also a new jackal—at least

it was new to me, and more like a fox. The extreme half of the tail was white, and it has a white patch over the root of the tail. It is otherwise the colour of the fennec, but darker on the back. I found several hares sitting under fallen logs, where they had scooped out a nest, and one I found inside one of the huts of a late hunting party.

9th November.—We halted yesterday to cut up meat, but I started again this morning. Every day is now of much importance, and I am anxious to see the men go to Baines's

THE NEW QUAGGA.

assistance. Saw several large pools nearly dry, and many crocodiles floundering amongst the fishes. I did not care about killing any of them, for fear of spoiling the water, which is loathsome enough already. I saw several large families of baboons, the young ones riding on the backs of the mothers—a most laughable scene; some sit upright with the ease of a jockey, and some hug the mother with all fours. When the old ones take the alarm, they whip up the babies with one hand, and, clapping them on their backs, camper off like Bushwomen. I shot two quaggas together

at a fine fountain, which we are following from the Luluesie river towards the wagons, about N.NW. We saw innumerable lion tracks, and the trails of elephants, which are probably flying from Snyman's gun. We are encamped in a pass just in their path, so that either we or they will be taken by surprise, should any more come. I calculate we cannot now be more than 12 or 15 miles from the wagons. The quaggas I shot were fine specimens, beautifully striped to the hoofs.

13*th November*. — Suffered very severely from dysentery yesterday, and am getting worse to-day. I observe that it commenced since I have been obliged to drink the stagnant water of the Luluesie, which was often unpleasantly tepid, and full of animalculæ. Drinking this in quantities when heated with walking has, no doubt, brought on the complaint, which is, moreover, attended with constant headache.

Last night some elephants were coming straight for my hut in the narrow rocky pass, but they heard the snoring of the Makalakas, and, giving a rumbling grunt of warning to one another, wheeled short round. Many spoors of elephants migrating from the eastward, the direction in which shooting was heard last night; probably Snyman has been hunting them. We followed the course of the fountain about north-west through the hills; saw plenty of elephant and buffalo trails. We then came to two or three different sources or springs, where four tall palm trees were within sight. Here I shot a rhinoceros, and, leaving some men, went on with the others, following up a straight valley for about eight miles north-west. We had passed abundance of beautiful water in the valley, but becoming thirsty above the spring, held on in hope of finding more, which we did not until the afternoon, at the base of the westward slope. We found this water by following the spoor of quaggas drinking what the

animals had left in their foot-prints. I had a severe fall into a game pit.

We were now within six miles of our wagons, for which we started at 2 o'clock, and reached there at 4 o'clock, having travelled about 18 miles since morning. I make this road consequently a little shorter and straighter than the more northwardly track, and, what is of great importance in the carriage of heavy goods, much more level; there are no hills to climb anywhere along its course. I think, with a little more knowledge of the country, I could even find a way by which to take a wagon to the Zambesi, but it would probably be impossible wholly to escape the "fly" in doing so. These pests make their appearance when and where you least expect them. I have not noticed any since leaving the Luluesie, but think they must extend 10 or 15 miles this side of the river along the mountains.

At noon on the 11th the thermometer was 100° Fahr. in the shade; a breeze blowing through the wagon, both ends open. Thunder and rain in the afternoon; therm. 80°. A little rain fell in the night. The morrow was cloudy and windy; therm. 70°. The flies here are covered with the pollen of flowers on their backs. Bees are numerous, but we cannot get honey for love or beads. The blind flies are beginning to trouble the cattle. On the 12th, at noon, the weather cleared up: therm. at 90°; at 4 P.M., 96°; at sunset, 94°. All our watches are long since out of order. The fine dust in the desert soon gets into a watch, and ruins it.

On a review of what has been accomplished during the present trip, I am happy to find that I have been able to complete, with few exceptions, my descriptions of the animals of South Africa, and also of a good many birds. Baines has found ample employment for his pencil, so that he has no occasion to regret his joining the expedition. I have

again gone over a great deal of ground, of which in former times I could only give a hurried account. Now, from having travelled so much on foot between the ridge of the waterfall and Sinamani's, I have been able to lay down a tolerably comprehensive sketch of the whole country; but, as I have resolved upon laying down no object of which I could not get the bearings, or which I could not see for myself, much remains to be filled in, in the way of hills, streams, and fountains. My sextant has long gone home, condemned (in the early part of the journey); so that, with a few exceptions, I am indebted to Baines for the astronomical observations, and, indeed, I invited him to accompany me on this trip, for the express purpose of having the benefit of his assistance in this department, and in sketching.

I give here the results of thermometrical observations in the course of this and the following month, during our stay in our present locality:—

MONTH OF NOVEMBER (1862).

		Sunrise	10 A.M.	Noon	5 P.M.	Sunset		
Thursday,	13th .	72°	90°	96°	100°	96°		
		Sunrise	10 A.M.	Noon	4 P.M.	Sunset		
Friday,	14th .	70°	88°	94°	98°	96°		
		Sunrise	9 A.M.	10 A.M.	Noon	4 P.M.	Sunset	
Saturday,	15th .	80°	85°	98°	108°	102°	85°	
		Sunrise	9 A.M.	10 A.M.	Noon	4 P.M.	Sunset	
Sunday,	16th .	68°	70°	76°	90°	92°	90°	
		Sunrise	9 A.M.	10 A.M.	Noon	2 P.M.	4 P.M.	Sunset
Monday,	17th .	70°	80°	90°	95°	98°	95°	85°
		Sunrise	9 A.M.	Noon	4 P.M.			
Tuesday,	18th .	68°	75°	78°	90°			
		Sunrise	9 A.M.	Noon	4 P.M.			Sunset
Wednesday,	19th .	68°	80°	85°	78°			70°

		Sunrise	9 A.M.	Noon	4 P.M.	Sunset	
Thursday,	20th .	70°	90°	98°	102°	96°	
Friday,	21st .	70°	82°	96°	95°	83°	
Saturday,	22nd .	72°	92°	75°	75°	74°	Rain from mid-day until the evening.
Sunday,	23rd .	68°	84°	93°	72°	72°	Rain from mid-day until the evening.
Monday,	24th .	71°	82°	90°	79°	75°	Rain from mid-day until the evening.

MONTH OF DECEMBER (1862).

		Sunrise	9 A.M.	Noon	4 P.M.	Sunset	
Saturday,	6th .	70°	75°	80°	85°	75°	Rain.
Sunday,	7th .	69°	72°	80°	76°	75°	
Monday,	8th .	72°	72°	70°	70°	69°	Damp.
Tuesday,	9th .	67°	68°	75°	75°	73°	
Wednesday,	10th .	65°	67°	77°	80°	77°	Fine.
Thursday,	11th .	69°	78°	86°	85°	78°	„
Friday,	12th .	75°	84°	88°	84°	83°	„

After the middle of November the weather became much cooler. The prevailing winds during the day-time are from the eastward, but in the evening a gentle breeze blows from the opposite quarter. The rains are frequent, coming from the north-east. Thunder is also common.

The prettiest of the trees in the locality, and one of which the elephants are fond, has the name of phatsi. The leaves, which spring from a peculiar imbricated sheath, are large, pinnatifid, and drooping, each composed of a great number of leaflets three inches long, overlapping, and lanceolate, broad and oblique at base. This tree looks as if it were made up of large, green, drooping ostrich feathers. It is of a beautiful green colour when in perfection, but when just springing from the leaf-buds or sheaths they are at first, on

the outside, red and green, and unfold the dull pale or brown leaves, which change gradually into a warmer colour, then yellow, then pale green, and so until, at maturity, a cold green. The bark strips off, and is used as cords for every purpose.

April, the Bushman, shot a buffalo, and Bill a pig, but they expended several pounds of lead in this feat, and brought in but little of the meat. The wild pig is the *vlak-vark*, like the one I shot the other day. There are two kinds of wild pigs: the other, from what I hear, must be the bush-pig, or wild boar. The *vlak-vark* burrows in the aard-vark's hole, but the wild boar (*Sus larvatus*?) makes itself a regular bed of straw several feet long. I have had occasion before to mention the ingenious manner in which it is said they get out of a pitfall by placing their feet against one wall, and, pressing their back against the other, thus work their way up. If the game-pit is old and broad they cannot manage it, but they can dig so wonderfully fast with their tusks and snout, that there is scarce any chance of catching them in the morning if they fall in over night.

CHAPTER IX.

Hunting for both Establishments — Native Bees — Effects of Rain — Native Insects—Fishes—Wasps' Nests—Crocodile Pond—Serious Accident to one of our Followers—A Surgical Operation—Continued Bad Weather—Fireflies—Lizards—Stinging Ants—Fear of the Tsetse again—Carnivora of South Africa—End of the Year 1862.

OUR PLANS being now of necessity somewhat altered, I packed up in readiness to start for the neighbourhood of our boat-building establishment, with the intention of stationing myself at some spot about midway between the camp at Boana and that on the Zambesi, so that I might supply meat to both. I sent Snyman's man, attended by five Makalakas, to Mashotlaan's to buy corn. Just as they were on the point of starting, some people arrived from Snyman with several tusks of ivory, which I bought.

19*th November.* — Yesterday, leaving the wagons about 11 A.M., I saw some wild pigs and some rietbucks, all very wild. I got a thorough wetting, but reached the Makalaka werft, about 12 miles off, at 4 P.M. Some quaggas being reported, I followed up and wounded three. I also wounded a koodoo, but did not get it. Fortunately however April, the Bushman, whom I lately taught to shoot, killed a quagga. This morning I shot a borèlenyàna, or kenènyani, soon after, and left some men to cut up the flesh. Saw two others; fired at the larger, but the gun was badly loaded, and I hit him too high. Saw some elands, qualatas, and a wild boar, which latter I might have hit with a stone, but I was in hopes of stalking a fine eland bull, and would not fire. Saw a great number of

vultures, and followed them to a dead rhinoceros laying in the water—probably one that Jem wounded the other day. A gorged wolf could hardly get out of our path. Spoors of rhinoceroses, as well as of lions, are plentiful, and those of a few cow-elephants were observed in the early part of the day. All the fish in the large pond in which the rhinoceros lay were dead, either from the putrid carcase, or the plants on which he had fed. Fell in with a buffalo; shot him, and he fell while in the act of charging for my concealment. Another, which I had not seen, then sprang out of a pool of water. I had no bullets. He ran 100 yards, and then stood watching us very fiercely. He then walked to the shade of a tree, and lay down to wait for his companion. My bullet in the dead buffalo being visible under the skin which it had raised, I cut it out, loaded, and mortally wounded the other buffalo with it.

Arrive at the huts, and make some Hottentot tea from a herb we found in the south. It is better than hot mineral water, which the Hottentots sometimes gravely sip as a substitute for tea, but requires to be made with a strong infusion of the leaf. At night everybody came in but Kamatudle. This unfortunate fellow, having only one eye, is always losing himself. It was very dark and stormy, and I was afraid the wolves and lions would eat him. I kept some of the men looking out for him, and firing guns, and after midnight he was brought in safely. A large troop of buffaloes stood around our camp for some time. They seem at night-time to care nothing either for people or fires, destroying the native gardens under the very noses of their owners, but take care to get out of the way by daylight. The upper parts of this valley, which we passed through yesterday, is covered with a carpeting of short green grass, which, being much sought after by all grass-eating animals in this incipient stage, is the resort by night of numerous herds of buffaloes, quaggas, koodoos, and other animals.

20th November. — Sent Kamatudle off to Baines with meat, vermicelli, and sardines, and two of Wankie's people with him, also loaded with meat. April wounds two rhinoceroses. Since getting wet the other day the large muscles of my thighs are so stiff and sore that I cannot move without the greatest pain. I have been lying here since yesterday morning waiting for the people and flesh, in order to dry it here a little. Sent one man to the wagon also with a supply of buffalo meat.

I got here some of the honey of the nonongora bee. It is delicious—much better than common honey; I can eat it freely without getting ill. The insect is nearly one-eighth of an inch long; the wings transparent and gauzy, with a violet tinge; head, antennæ, and thorax, black; abdomen, brown-barred and dull transparent yellow; feet, reddish brown; mandibles, ditto; but the insect being very small, these particulars are distinguishable through a microscope only. They build in the decayed hollows of prostrate or horizontal trees, and deposit their honey, not in combs, like the bee and the massie, but in a compact mass of oblong globules, some sections of which are devoted to the brood, and other sections as reservoirs for the honey, but are not receptacles for the larva. The eggs are deposited in clusters, or bunches, against the sides or roof of the chamber. The eggs are transparent, and the insect is visible through its yellowish shell when nearly ready to burst, at which time they are a little longer than quail shot. The massie has been already described in the course of my journey from the Falls. The monga (or tobo of the Bechuanas) has its hive in the earth or ant-hills, and the honey is deposited in a bunch of large cells or bladders.

At night a host of wolves (*Hyæna crocuta*), such as I do not remember having heard before, besieged our camp, making the most demoniacal noises one can imagine. It

was too dark to see them, though they were prowling within a few feet. At length the lions commenced, and, tired as I was, I went off to sleep in spite of their music. I had compelled the Makalakas, much against their will, to make a sort of shelter from the rain. They have great faith that it will not rain. When it did come down they were delighted, as it was daylight, and they could run about and frolic in it. At length the river flood came rolling down the rocks, and they fairly danced for joy in the midst of it. At night they lay down on the wet ground outside, in preference to the shelter.

21*st November*.—Bill not coming yet, I give him up altogether, and proceeded making a short cut to the Luluesie river, striking it eight miles off instead of four, and at right angles. I had hopes of finding some elephants in the neighbourhood, as there were spoors when we last passed; but now there is no sign of any. At the Luluesie river we found spoors of cows and calves, but not a bull spoor anywhere. I begin to think the bulls have been nearly, if not all, killed in these districts, so that there is no choice but to shoot cows when a chance offers. I expected to find the Makalakas ill this morning after their wet mattresses, but they were as lively as possible. The rain, we found, had not extended half a mile east of us; and from there the country was as parched as we left it two weeks ago. The ashes of the burnt grass had been swept away by whirlwinds, and the stubble devoured by ants, leaving not a vestige behind; not a leaf is yet budding from the trees, and the bare trunks and cracked and burnt earth look truly dismal. We fall in occasionally with wild boars. I shot three fine specimens, and, having taken their dimensions, left the men to cut up the meat, while I hurried on to the next camp to get my blankets under cover.

The wild hogs, which, when full grown, bear tusks twelve

inches long, have a very imposing look with their long and tufted tails erect in the air, bristling arched mane, and daring attitude. They are very brave, and will not easily forsake a companion; but threaten the enemy with a rumbling growl, and even approach him with a very menacing aspect. I shot a fine specimen to-day.

The prophetic speech of one of the Makalaka boys, who ascribed the absence of rain to the want of population here, predicting its occurrence now that we were come into the district, was fully realised, for before we had reached within two miles of the hut it poured so that we were all drenched, and walking ankle-deep in running water. It did not matter to the Makalakas, for they were naked, and had, moreover, my blankets, &c., on their heads. As we reached the hut the rain ceased, and the swollen streams were rushing into the Luluesie from the hill-sides, so that I had some difficulty in crossing the river after five buffaloes which passed within 100 yards opposite. I waded knee-deep through the stream; but, after sending two unlucky snap-shots after them, returned to the huts. I had scarcely rested, when we fancied we heard elephants to the northward, and I started off in that direction, walking till sunset without falling in with them. The fact is, that after a shower sounds travel very far; and the lower animals, as well as man, refreshed and invigorated, give way to their feelings in rejoicings. The elephants participate fully in the universal joy which reigns throughout the wilderness after the first shower—young and old alike giving playful vent to their feelings by thrilling notes of delight, which may be heard for miles around. On these occasions, too, the lion, who otherwise does not deign to raise his voice in the day-time, makes his gruff tones heard. Leopards and wolves are also heard everywhere around. Perhaps it may be that, as all the traces by which the carnivora and other tenants of the wilderness

reassemble (the spoors) have been washed away by the rain, they adopt this method of collecting their companions again. Birds of beautiful plumage and song seem at such times to feel no dread of man, but come, sitting on or hopping about the branches over his head, eyeing him askant, and entertaining him with a burst of melody, such as their own throats have been strangers to for many months past. Pretty beetles come out of their shells, and crawl about, busily commencing life; especially I noticed an exquisitely beautiful scarlet, bright, velvety tick or mite (*Trombidium tinctorum*).

The wet weather, however, has its disadvantages for us. Last night a large, swift, hairy spider, six inches long, ran over my face several times, but was so quick that we could not catch him until he had run the gauntlet of everybody; and although the boys did not care much about him, saying he *didn't* bite, I did not feel at all easy until I had secured him. Hardly was this done when another nuisance was discovered, and my bed was found swarming with a kind of ant, half an inch long: body, brownish-red; abdomen, brown: these, although they do not bite, are disagreeable bed-companions. Being in search of cooked food and sugar, for which they have a strong predilection, they had got the smell of the elephant lard with which I had anointed my limbs; and as I could not jump into a warm bath to obliterate the traces of it, I was obliged to put up with the nuisance as well as I could, slaying as far as I was able. In the morning I found a scorpion in my shoe, and another in my haversack.

The Makalakas brought in to-day a small tortoise, one of those fresh-water turtles elsewhere mentioned as having a kind of trap-door in front, by which it can lock itself up securely, and which I have already described as found on the Botletlie river. This one is about a foot long. They are very different to the other small kind, which I do not

think ever exceed six inches, and are more flat. The fish which the Makalakas procure are all barbers (*Clarias capensis*, Smith), as they are called in the colony. They sometimes attain a very large size, four and five feet, and have a very large, broad, flat head, with long feelers, and, as they are constantly rooting in the mud for worms, &c., are not at all delicate eating. They are easily caught with a hook; flesh will do for bait, but worms are more certain, and frogs are still better for the larger ones. The other little brindled fishes,* and a kind of carp, may be taken with mud-worms, grasshoppers, dough, maize, or corn; but the natives have no knowledge of hooks and lines.

All the little streams here contain fish, although they are not perennial rivers throughout. It is matter of surprise to some persons how fish come into them again after the water has dried up. I have heard people express their belief that the spawn is carried on the feet and bills of birds from one stream to another; but I observed at Lake Ngami that the fish there (very much resembling the anabas of Ceylon) had regular burrows under the ground, where they deposit their spawn previous to the drying up of the waters, so that it is left for a considerable season on dry land without injury, and is hatched when the flood takes place. The barbers lay in a state of torpor under the mud, like frogs and crocodiles; but it seems that in this respect some of these reptiles, both fish and crocodiles, are not endowed with equal instinct of self-preservation, and their lives are sacrificed in consequence. The barbers are generally from two to three feet long; brownish mottled colour above; belly white; fins having a reddish colour: they have eight antennæ or feelers,

* These seem to be viviparous, to judge from the intensity of the solicitude they evince for a shoal of very young fish which generally accompanies the old one, and the great vigilance and activity displayed in protecting them from any real or fancied danger.

four under the chin directed forwards, two middle ones on the muscles lying backwards, and the other two, the largest, extending horizontally out, which gives it a formidable appearance in the water; eyes small and brown.

23rd November.—We are confined to our camp, owing to the serious illness of one of our Makalakas, who has an attack of the native fever, the symptoms of which are described by Dr. Livingstone. I shot a waterbuck close to camp. I notice the pastern joints of these bucks are so long and bent, that the little hoop of the fetlock makes distinct impressions on the ground, like that of a pig.

Although the atmosphere seems clear since last evening, I observe this morning that a stick of tobacco, which I took out of a tin box last night as dry as snuff, is perfectly saturated with moisture this morning, and swollen to twice its original size, though it has lain inside my hat. My bedding and clothes, of course, feel also damp.

24th November.—Still detained by the continued illness of our patient, whose case is really serious. The Makalakas, and even Bill and April, are quite gloomy since they find me going so far towards the river, grumbling amongst themselves all day that there is no game that way, in which opinion they are quite correct. But I am obliged to keep within a moderate distance of Baines and his party, who are dependent on me for supplies. I may, however, have to go back to the last place, if I do not get anything at the next station. I sent Bill and Katwa on with four bundles of meat, to meet the messengers from Baines, who must be on their way hither by this time. Bill shot a fine wild boar (2 ft. 9 in. at shoulder), and April a young male waterbuck.

There is a large black wasp (1½ inches) building its nest in my hut. It commenced yesterday morning, and seems now to have finished. The whole is of a globular form, two inches long, but there are four or five, or more, different chambers

inside. She is now going in and out every five minutes, but I cannot say what for, unless looking for a place to build another. (Steel-blue, expanded wings, body black, legs brown, antennæ red.)

An exquisitely bright green bee is also very busy. It has a sting double the length of its own body, with which it inflicts a very painful wound. They are looking for ready-made holes. A still larger wasp than the one I have mentioned runs about the ground like the beetle. Wings closed, and of the same steel-blue.

26th November.—Last night, about 9 o'clock, as I was prepared to go to rest, I heard a great rush of feet towards my hut. I looked out to see what was the matter, and every individual took shelter behind me, unable to speak. I thought, indeed, with them, that we must be surrounded with Matabele. The Bushman seized a gun, and was in the act of aiming at two men who were approaching the entrance of the kraal, when I put it away, and discovered they were two Damaras from the wagons! The Makalakas recovered their alarm, but showed great indignation against our visitors for omitting to signify who they were, by calling out as they approached. The Damaras brought a note from Edward, saying that the messengers had returned from Mashotlaan's, where they had met with a civil reception. John is better. The cattle, he thinks, are getting thinner.

Three shots were heard this morning close by, to the north. Sent the Damaras back to the wagons with four bundles of meat, each about fifty pounds.

At about 3 o'clock a storm of wind came up from the north with tremendous fury, and soon brought rain, which fell in large drops. Another storm met it from the south, small drops this time, but falling so thickly that my hut, which I had imagined quite secure, was entirely swamped, and a stream running through. It lasted only about twenty

minutes. The river comes rolling down with great fury, wave upon wave, and the little torrents from the hill-sides leap into it with a noise like thunder.

A six-petaled amaryllis has sprung out suddenly by hundreds; it has a sweet odour, and has a blush of red down the middle of each petal, outside. It has small grass-like leaves.

27th November.—Yesterday I felt an inflammation coming on in my eye. I walked out after the rain to hunt, and it was very much worse. Ophthalmia seems very rare here, for a wonder. I have scarcely seen a case of it amongst the Makalakas. To-day my eye is worse, probably from lying so near to the wet ground at night. I walked over the range of hills five miles north (running east and west), in the hopes of getting something, but, notwithstanding I made a great round eastward, saw not a spoor. The game has evidently left for the desert—at least the natives say so; and I fear I shall have some difficulty in keeping Baines supplied. I saw this morning the pretty white flower which I admired so much on the west side, and a peculiar kind of grass plant, a perennial, the blade springing out of a branched trunk, like a tree, made up of fibrous sheaths, the growth of preceding years. It has clusters of pretty flowers, of a bluish-white or pale lavender colour, and an exquisite odour. It is astonishing what progress the vegetation is making since we had those two showers. Trees which a week ago were quite bare, are now densely clad. The mopani leaves, at first, are of a very warm, reddish-brown, then glossy, unctuous-looking olive, then dull green, which becomes brighter towards winter. The large sterculias have two large, glossy, two-lobed leaves; and the sorokaan, rosettes, or bunches, of serrated oval leaves. The maruri papierie is a trefoil, with scalloped margin and downy surface, and smooth bark. Elephants are fond of it. These trees snap off like carrots; the branches are rigid,

short, and spinous. The small cactus, which I have mentioned as abounding amongst the rocks, exudes a white milk (*euphorbia*?), and the large tree-euphorbia is four-winged and scalloped, the notches reversed. It is the same one we find in Natal.

In the evening, the people being in want of food, I shot a pallah and a waterbuck, and on my return to the camp found that the sick lad's father had at length arrived. It rained throughout the whole night, and several successive thunder-storms passed over, the peals frequently very loud, and the lightning very vivid. At daybreak the rain ceased, and (Saturday, the 28th) I walked out about a mile, and shot a waterbuck. These animals have drooping ears, like a donkey, which the females somewhat resemble when grazing and at ease. They will soon kid now; likewise the pallahs, which I observe only in small parties of three. I have lately seen eight or ten parties of only three does together. The waterbucks are also more scattered now. The pallah, though one of the swiftest antelopes in the world, is run down by the Bushmen, who capture all animals. To them the doe pallahs, at this season, when heavy, are not difficult to catch. With the giraffe they require the aid of good dogs. It is, however, a terrible chase, and one in which no ordinary man can engage.

Several of the wasps are building now. They make several cells, one over another, in each of which they put two or three caterpillars. It is interesting to observe how clever they are—how they survey the ground, build the cells, lay the eggs, bring the caterpillars, and again go for clay to seal up the door. These actions seem guided by human sense. They carry water, also, to moisten the clay, and are so industrious that they become quite weak, and at length stagger over their work. In conveying the caterpillars (which are two or three times their own weight) to their hives, they

sometimes fail to rise high enough with the impetus they have on; when this is the case they return, and rise in the air outside to obtain a greater impetus, and come in with a longer swoop, but they often make several attempts before they succeed, going farther and higher every time for a starting-point, until success crowns their perseverance. Having reached the hive, and having stung their prey, and so rendered it insensible, they systematically insert the head of the grub, and then hoist him in farther and farther. When they have thus placed the poor caterpillar in his coffin, they go away, in perfect confidence as to his security, to fetch clay wherewith to shut up the door. These winged gaolers are accommodating, adapting the shape of the cell to that of the caterpillar. I opened one: there were five cells, with generally three caterpillars in each; but some four, and others only two. The larva is transparent and green: the youngest alone had the power of motion. The caterpillars all alive yet, though they have been shut up three days. As each cell is finished, the female wasp lays her egg, which occupies her a minute and a half. She then leaves her house for an hour or two to dry perfectly, and then goes for caterpillars. When all the cells are finished, the whole gets a more substantial plastering of clay. The walls of the cells, in the first instance, are scarcely thicker than an egg-shell. She is gone four or five minutes for each pellet of clay, and the last layer is then sufficiently dry to receive another. To find the caterpillars is not always an easy matter. They always let the cells dry for about two hours before they introduce the grub; they build and close one cell every day.

Yesterday I observed several large balls of froth sticking to the side of a rock, which looked like insect production. I examined one, and found it to contain a mass of some hundreds of little tadpoles swimming about in the inside. I notice also several beautiful scavenger and other beetles here which I did

not get on the west coast. Each insect has its own peculiar instinct or sagacity, but the scavenger (*scarabæus*), in addition, possesses a good deal of cunning. I have seen two globes meeting from different directions, and a dispute arise for the mastery of both. The strongest seized the other world, and, plastering them neatly together into one, sent his adversary sprawling on his back, and then ran away with his globe before the other knew where he was.

22*nd November.*—A buck which I shot last night was brought in this afternoon. Just as I had been writing to Baines, Bill arrived with a letter from him, which contains news of successful shooting. He had himself had some luck; the boys had killed a buffalo; and Anthony (a juvenile Dutch emigrant) actually killed an elephant, the first thing he has shot. To-morrow I send Baines ten bundles of meat (about 500 lbs.), with a bag of nails, and four hides to cover the decks of the boats.

In the evening I saw the removal of a swarm of young white ants, or termites. They are, however, of a different kind to those inhabiting the ant-hills, and only half the size —not so dark, and are not eaten by any of the natives. They live in the ground, and are just as destructive to property as the larger kind.

30*th November.*—As April left, I started in the opposite direction, where I heard elephant spoors were plentiful, and all sorts of game. After walking about 15 miles, however, I had seen only crocodiles and baboons. A very large tree by the Crocodile Island was swarming with the latter, and looked for all the world like a ship's mast and yards full manned. It was, indeed, ludicrous to see them hurry down, big and small, some 300 or 400 in number. This is the second time I have seen them on this tree (the kukoomga). There is nothing on it for them to eat, but the natives say it is their home and their "look-out," and that they have lived

there for years. After they have roamed about in quest of food, they resort to it *en masse*, and pass the remainder of the day and night on it. This tree stood near the Crocodile Pond and Crocodile Island, and I was sorry to observe it had not rained here yet. I approached the pond, which is against the southern sandstone cliff of the island, with caution, having determined on shooting one of its tenants, in order to get a proper description of them. To my surprise, not one was visible, and I concluded that the baboons had given them due warning. This was indeed so, but in a different manner to what I had expected. On looking about 200 yards beyond the pond, I observed a number of the loathsome reptiles running towards the pond. It was a race between us, but, finding they had got too much a start of me, I stopped to count them as they tumbled into the green and stagnant pool. I counted twenty-seven, all nearly two-thirds or full-grown. I could only account for this strange daylight migration by supposing that they had gone so far up the bed of the river to feast on the leavings of the lions, and hastened accordingly in search of the spoil. On rounding the corner, however, the sound of running water broke upon my ear, and I saw the Daka river in full force rushing down like a wave. The crocodiles had scented the fresh water, and were going in procession to give it a hearty reception. One unfortunate fellow had gone a little in advance of his companions, and, now too far to retreat, went onwards. I shot him just as he plunged into the fresh stream. But the loathing with which all native races, savage or otherwise, regard these disgusting reptiles is universal. My Damara would not touch it, the Makalakas would not look at it, and I was obliged to pull off my boots, and drag it to the bank myself. This one was but eight feet long. I have often shot them eighteen feet long, and as bulky as a buffalo.

The fig-trees here have four or five times the woody

substance in their roots that they have in the trunks. You see them traversing the bare walls of basaltic rock for a hundred feet or more, with several thick roots, each as thick as the trunk. The tree seems to imbibe nourishment from the air.

13*th December*.—April returned from Chuma-Chukeroo, whither I had sent him to engage porters: he brought two miserable wretches, mere skeletons, with the promise of a further supply of this questionable article on the morrow. Next day, conceiving it a duty incumbent on him to feed the poor hungry fellows, April went out, of his own accord, to hunt. At night, after I had retired to bed, one of our people arrived in great distress, having been sent by April to ask assistance. His gun had burst, and injured his hand, and the poor fellow was so weak from loss of blood that, being unable to walk any farther, he had lain down under a tree about 10 miles off. I called up all the men to go to his assistance, taking with them food and water. I feared lest the lions and wolves, which are very abundant, and even now roaring about us in great numbers, should devour him; but Shapatani insisted that he should not be able to find the place again in the dark. It was indeed pitch-dark, cloudy, and drizzling. I tried hard, however, to get them to go off at once, as April had no fire, and it would be a miracle if the lions were to miss a wounded and bleeding man: but all to no purpose.

15*th December*.—In the evening April was brought back on a stretcher, carried by three men. The rest of them did not forget to bring the quagga which April had shot; and Jem had killed two rhinoceroses with one shot from my big gun. I have never heard of such an achievement before. Poor April's hand was in a frightful state: the thumb gone, and all the fingers smashed, and a large piece of iron had evidently gone through the palm. It presented, indeed, a

horrid spectacle, and, seeing that there was no remedy but amputation, I had it dressed for the present, and sent him to bed after a good mess of milk and porridge, the first thing he has eaten.

Next morning, after a restless and anxious night, I rose early, for the purpose of taking April's hand off. The poor fellow made no objection. I could not perform the operation without John's assistance. He did not like the cutting, but I made him take the knife while I held the stump, put back the integuments, and caught hold of the arteries, while the hand was severed from the wrist. John did his best, yet at best it was but a clumsy job, as may well be imagined, for neither of us had ever seen anything of the kind done before; and when I had, with much difficulty, secured the arteries, which were constantly slipping, the ligatures could not be found. However, we were not ten minutes about it, bandaging and all, and there were not two tablespoonfuls of blood lost. The poor fellow bore it all very patiently, and that was a great matter. It may easily be imagined what I felt, especially as my nerves are at best not very strong, and I was now very ailing myself. But it was a case of emergency, and my sense of duty carried me through. Heavy rain fell during the night. Some of our people went off to the rhinoceroses. The chief came to say farewell. I was obliged to take to my bed, and was soon unconscious with fever. I was very ill all night and next day, and, as they tell me, delirious.

18*th December*.—It rained heavily all night, and to-day again, so that all the plains are flooded. My fever did not abate till this morning. Rain! Nothing but rain! with thunder and lightning. I have never experienced such rain. The whole country is deluged, and our watercasks washed away, probably into the Zambesi. The cattle and sheep stand every night in a puddle up to their knees, and the

Damaras' huts seem to be in a frightful plight. By some mischance, they always choose a hollow to build in. Several are sick of fever; only two men and a boy are well. My amendment had been only for a short interval, and I had a relapse, when the symptoms became still more violent. I was raving for a whole day, and have no recollection of anything that occurred. The third day (Sunday) I was so much better that I was able to write to Baines, at the other camp, and to my wife.

23rd December.—I had a sleepless night; lions prowling about the house frightened the cattle twice out of the kraal. It was very dark, and the herdsman, while turning the cattle back, stumbled over a lion, which growled, but fortunately did not attack him.

The lions came within ten yards of the wagon, but were driven off by the barking of our dogs, whose behaviour is very different in the case of a lion from what it is in that of a wolf. They do not care for the latter, but when a lion comes, they will not even follow the people after the cattle, but shrink within the enclosure.

A kind of fire-fly is very plentiful, sparkling like diamonds on these dark nights. It is a small brown insect, one-sixth of an inch long, very narrow, and has the extremity of the abdomen tipped with a brimstone colour underneath as far as the second wing. Its flight is like the dancing of a lantern, for which it might be mistaken, and the more intense the darkness the greater the light emitted. I have seen thousands of these small insects illuminate a large tree on a dark and stormy night. The effect of this multitude of flashing lights is something wonderful, and must be seen to be appreciated. There is also a larger kind, which evidently belongs to the *Elateridæ*.

I still keep my bed, feeling extremely weak.

24th December.—Incessant and heavy rain all yesterday,

and again, without intermission, all night. It is impossible to keep anything dry. The wagon smells mouldy, the bedding feels damp, and everything becomes rotten. Around our wagons there is nothing but mud and water. Last night we had a storm from the north-west, a quite unusual quarter.

25th December.—Christmas Day. Dull and cloudy. I have headache, and feel very unwell. Try to write, and fail, from weakness. Some of the sick people crawl out of their huts. A lonely day. Jem and Kajumpe return from Bill, who left his camp yesterday for the river, with all the goods and traps, including my portmanteaus, &c., &c., destined for the east coast. I intend following as soon as I am strong enough.

Next morning I was up again, but all the Damara women, wives of the only servants we had now got here, are very ill with fever. At 10 o'clock Dikkop's wife was reported to be dead or dying. Distributed a sheep amongst the sick women, and superintended the building of a new hut for some of them. On speaking seriously to the Damaras on the folly of bringing their wives with them, contrary to my orders, and of the inconvenience and misery they had brought on themselves in consequence, they laughed heartily, and wished to know whether they would not have died at Otjimbengue as well as here. "Don't people get sick and die in Damara Land?" It was a touching spectacle to see the little child of the deceased, mounted on Pompey's shoulders, following the corpse as sole mourner. The corpse itself, tied up in a skin, was carried, like any other burden, between two men, one having hold of the loop of a rim tied round the feet, and the other at the head.

27th December.—My birthday, on which I complete thirty-one years. The day now brings with it a melancholy train of thoughts, unsuited to one who undertakes to be the leader of an expedition across this continent, with all its perils, obstacles, and difficulties; but away dull care! I must

banish home-sickness, all those vain regrets and longings which tend to deaden a man's energy and breed despair.

29th December.—John brought in one of the large scaly lizards. It measures eighteen and a half inches in length, which is about equally divided between body and tail, the latter being square, broader above (at base) than beneath, and scaly above, rough, and raised in the middle into projecting ridges, glossy, and of the consistency and colour of tortoise-shell. The head is divided, like that of the male water-tortoise, by sectional indentations or divisions, and from the back of the head the body is covered with transverse rows of square, hard, and horny scales like those of the crocodile. Legs covered with imbricated triangular scales, rich dark brown with yellow spots, somewhat assimilating the colour of tortoise-shell. Tail the same. Back and head, dull light brown, with a dark streak down either side. The belly protected by a glossy armorial plate of irregular or lozenge-shaped scales terminating in the corner of the mouth, projecting beyond the sides, and quite distinct from the scales of the body, by a longitudinal division on either side from the vent forwards. Belly scales, brown; of the throat, yellow, large, with white patches across; chin, white; inside of legs, yellow. Five toes on all four feet; two middle toes of hind feet very long; all the claws or nails very small. Eyes, brown. Ears, large. Nostrils, round. Broad and fleshy tongue. Short, thick, and regular teeth, like rows of pearls. The tail is laterally indented on either side. It is edible.

There is a large blue tree-salamander here which I cannot get hold of, and a smooth rock-lizard more than two feet long, of a deep glossy brown with longitudinal yellow stripes. They inhabit steep and rocky cliffs.

The butterflies in these parts are very similar to those found on the western side of the continent; but a very pretty one taken here to-day has not been observed there. Its primary

wings are of a deep velvety black, tipped with white and spotted with bright golden yellow. One large spot near the extremity, then three smaller, then again two, these latter arranged in rows transversely. The secondaries are bright vermilion margined with black, tipped with white, and pointed yellow near the junction. Abdomen deep velvety black, barred transversely and boldly with six bright golden or orange-yellow bars; vent pointed with yellow. Each bar has a white spot on the side. Body and head black, spotted with white. Breast and belly, the same. Legs, the same; the latter having, moreover, each a yellow bar across the middle. The vermilion of the secondaries bright underneath.

Since Saturday we have had very fine weather; though the thermometer never rose higher than 96° at 3 or 4 P.M. But after so much rain and clouds the air is as piercing at 96° as it was before at 110°. Towards sunset the temperature is very pleasant. At sunrise the thermometer is generally about 71°.

Some of our boys saw a lion while out searching for a wounded quagga, and the day before Jem's party came upon a whole troop running before them on the spoor of buffaloes. To judge from their spoors, lions are very numerous in this neighbourhood just now. We frequently hear them in the night near the cattle-kraal, and the people often stumble on them while out hunting. Jem came close upon one fast asleep the other day, and woke him with a bullet in the ribs; but the lion roared, and all the party ran away, without stopping to see whether he was killed. Quaggas are all we see or hear of besides.

The virulent stinging-ant already mentioned is about an inch long. Thorax reddish-brown, or dull red. Body hard, black, pitted and covered with short rigid hairs, and marked with two square (oblong) and four round white spots regularly placed on the back. The extremity of the

abdomen is composed of three or four overlapping scales, more distinct underneath. One of these insects cut in two, seven hours ago, still shows signs of sensibility and vitality in the severed extremity, which applied to Jem's hand stung him so severely that it was swollen in a few minutes; and whenever I handle it the sting is protruded as in life, searching actively for my hand to sting it. I have laid it by to see how long it will retain this power. The sting is long.

There are some smaller kinds of this ant which are barred red, white, and black; but the sting is equally painful. I was yesterday stung by one of the green wasps. They are three-quarters of an inch long (hump-backed), bright glossy green and gold; abdomen blue at the end; eyes black; and the sting the length of the body; the wings brown and transparent. They look for little holes in the wagon in which to deposit their larvæ. They are not so thin in the waist as other wasps. The ant above mentioned makes a buzzing noise like a bee.

To-day the thermometer rose to 96°; day fine, with few clouds.

In the evening John fell in with four buffaloes close by, and shot one of them; but he brought the terrible news that there were thousands of the "fly" on the one he had killed. I gave orders that the cattle should go out early to graze on the open to the south, while he returns to the buffalo, and endeavours to catch some tsetse for my inspection.

31*st December.*—John went off early, and soon sent me a fly, which happily proved not to be the dreaded tsetse. The Makalakas say the "fly" was brought into these parts by the elands from the north, after they had been denuded of their former inhabitants. Heavy rains are said to kill the "fly" in the season when they prevail. I have learned from the natives that the tsetse deposit their larvæ in the dung of

the buffalo. Snyman tells me, that when he was living at Sekelètu's a report was brought in that tsetse had crossed the river to a cattle post. The people in charge fled with the cattle, and Sekelètu sent off a party to burn them back again, firing the grass, and afterwards sent the cattle there again. I do not quite understand this, for I know fields burnt down regularly every year which are still infested with tsetse. I think the only chance of exterminating them is to keep up constant warfare with the buffaloes until they are driven out. Generally, when they have entered a new country with game, they soon increase and extend themselves farther every year, if the country is suitable.

I find that the species of leopard or panther by which one of our Makalakas was carried off some time since is called 'mboomolo. It is the largest of the three named 'mboomolo, nyaliwali, and gwèzago. The 'mboomolo catch quaggas with the same ease as a lion, and bite them in the neck like the lion. Man also, and all other prey, it seizes by the neck. The 'mboomolo is larger and more robust, and has a more beautiful skin, with larger markings in the form of rings. The hunting leopard, as well as the mountain leopard of the colony, are equally dangerous to man in these parts, as also the kosie and other inferior carnivora, as hyenas, &c. The 'mboomolo is known by its large spoor and the manner in which it seizes its prey. The common leopards are in the habit of scalping and biting through the skulls, first feasting on the brains, and then severing the jugular vein and licking the blood. In these parts, they have been so accustomed to feeding on human corpses, owing to the Matabele invasions, that they are all rendered highly dangerous to man, and prey regularly on them. I have often been astonished at the precautions taken in some of the villages I have passed through; but did not believe in their necessity, until I had lost two men my-

self by attacks of these ferocious animals. The native huts, besides being made of strong piles placed close and lashed together, are thatched or plastered, and protected by thorn-bushes all round, and a strong door is secured in the inside by a cross bar loosely attached to the middle with a thong, and twisted up until quite tight across the doorway, and secured further with thongs to prevent it slipping.

The hyenas worry us very much, running about all night between the huts of our people and our wagons. They keep our dogs constantly on the alert; no sooner is one driven by the pack for a few hundred yards, than he returns again at the very heels of the dogs. Thus they keep us awake till day-light, when they sometimes may be seen from the wagons, dragging away or devouring a piece of hide which they have succeeded in stealing. Jackals we never hear.

Therm. from 62° to 100° to-day; at sunset it fell to 85°, and remained nearly stationary until midnight.

I am now, I think, strong enough to begin the journey towards the river, as soon as the Makalakas return from Baines.

CHAPTER X.

Progress of the Boat-building—Continued Illness—Our Distressed Condition—More Sickness—Knob-noses—Disasters at the Boat-building Establishment—Resolve on moving the Wagons—The Tsetse again—Send for Baines—Night Attack of Wolves—Meteorological Phenomena—Distant Smoke-Cloud of the "Falls"—Baines arrives from the River—Abandonment of the Camp on the Zambesi—Sufferings among the Men—Move to the Westward—Weather Observations—Increasing Distresses—Difficulties of the Return Journey—Native Credulity—At Daka again.

1*ST JANUARY*, 1863.—The beginning of another year. May it bring good fortune to us! A shower to-day has reduced the thermometer to 90°.

Messengers returned from Baines, who writes to say that three or four of his men are sick. He has commenced planking the boat, but his principal assistants are ill. I had hoped to have been able to give him some help, but the more anxious I am to get away from here, where there is now nothing to interest me, the more things conspire to retard me. It harasses me to hear that, notwithstanding the trouble I took to send Baines a good supply of meat, our people must have robbed him of half, no doubt in order to buy tobacco, which I find they send up in quantities to their wives. Therm. to-day, 75° to 80° Fahr.

Sunday, 4th.—Just recovered from a frightful headache, which I suffered from the last few days, accompanied with strong fever. I have had very little food or sleep for several days past, and am suffering from dysentery. Therm. yesterday, 70° to 90°.

Edward has got a pair of the Makololo fowls. They are small, and not remarkable for beauty or plumage, but are exceedingly prolific. Some hens lay two eggs regularly every day; and one of the hens now here, having chickens only a month old, is again laying.

Since New Year's Day, we have had continued showers day and night. The clouds are not so thick and foggy as they were before Christmas. Some of the sick, I hear —for I cannot leave my bed—are beginning to peep out occasionally.

The green wasp mentioned before perforates, I find, a small, shallow hole in the clay nest of the large wasp, then turns around and pierces it very violently with the extremity of the abdomen, depositing at the same time a glutinous fluid, which, I suppose, is the larva; the large wasp then plasters it over. With regard to the large wasp, I think the larva thrives by absorption before it is able to eat of the caterpillar. Their growth is very rapid. When first deposited they show signs of animation, and are capable of wriggling themselves about, but when larger they assume the form of the green and transparent chrysalis. I observe they do not make more than five chambers to each nest, and then commence another. They lay one egg per diem.

5th January.—Very weak with diarrhœa and constant sickness; can eat nothing. A letter arrives from Baines; nearly all there sick and starving. I send Jem off at once with six oxen for slaughter, in order to keep up a regular supply of food.

8th January.—During the last few days the weather has continued cloudy, damp, and steamy. The prevailing winds, clouds, fogs, mists, and rain all come from the north-east; they are floated over the hills, and the higher parts are then generally nearly cloud-capped, and must account for the steaminess. It is a frightfully unwholesome atmosphere

here, from the quantity of vegetation and never-failing clouds; and everything smells exceedingly musty, even the clothes one has on. Therm. during the day, 70° to 88°.

A Damara woman and little Kamoa were the next messengers that arrived from Baines, as all the people with him were likewise prostrated. He has nothing for the sick to eat, and is the only one who continues well; and I wonder that he is so. To-day he will very likely get the relief I sent him. In this state of affairs I must go and look after them; and if Baines is of opinion that he cannot finish the boats in time to be available for this flood, we must leave everything in charge of Wankie, feed up and bring away the people, who are murmuring very much at the long delay. Not one of them, I hear, would now venture down the river with me, even if Baines could get the boats ready, which, from all I can learn, is utterly impossible. In the meantime, as I am unable to shoot, what will keep them alive? We have no food, no medicine, and my people are, besides, thoroughly disheartened at the long delay and the disasters we are experiencing. Perhaps, if Baines had laid aside his painting for a while, and devoted more labour to the boats, while the people were in health and game was plentiful, we might now have been on our journey to the east coast.

Edward went out and shot a fine male eland, which, being in good condition, is decidedly the best prize we have got since coming here.

9th January.—This is the first day I have been able to rise, and that upon compulsion: Edward, like the rest, being prostrated by sickness. There is no one well but Sam, and those who have gone after the eland. The mosquitoes, which are worse than ever, add to our sufferings; they are of a small black kind, and avoid the light. I have taken the cooking into my own hands. Had we nutritious provisions

of any kind one would not so much mind. A little rice broth, or barley, or sago, would now be worth more than gold, and as for tea, I think there were times lately when I would have given almost anything for only an ounce or two. If one had a little sugar, a little vinegar, or acid of any kind, a refreshing drink might be made; as it is, the patient cries for water, which when brought, is tasted, and rejected with disgust. The water here, although from a spring, has a peculiarly nauseous flavour, as of grass, and is quite stagnant. Kept only twenty-four hours in a can it emits a very strong effluvia, as of decayed vegetation. But, alas, for refreshing fruits and cooling beverages, existing to us only in imagination! The only fare to be found in our larder is quagga flesh, and it is daily becoming more difficult to keep it supplied at all. A Damara is of quite a different nature to a white man, and has more appetite to eat during sickness than we have; when these people cannot eat we may believe that they are really bad. The cattle and sheep lay about all day untended, for all hands are down with fever. A little more knowledge of medicine would be a great blessing to myself and many others who are placed in similar circumstances. Those who expect that all travellers in these lands are to share the impunity enjoyed by Dr. Livingstone in the matter of fevers and other ailments, forget that the worthy doctor's profession had been that of medicine. He has had great experience in these parts, and possesses, besides, an iron constitution. As for his 114 men, they are not to be taken into account at all. They came from one of the worst fever-smitten countries in the world, were inured to the climate, made their houses and beds in the mud amongst the reeds and mosquitoes, and therefore every country that they entered was more healthy and invigorating to them.

It is painful to reflect upon the expediency—I fear too obvious—of such a step as that concerning which I have sent

John to consult with Baines, that is, giving up the remainder of our long-contemplated journey. Now that we ought to be nearly ready for a start it is a hard thing to be driven to such a thought at all. The time thrown away, the boats, I believe, half made, the great expense gone to, and the labour expended, and all the hopes which I have built upon the success of this trip, crushed, at least for the present. Everybody is sick now excepting John, Baines, and Edward. Baines has not a soul to help him, John *will* not, and fever is only beginning now, and will grow worse until May or June. The demands upon my stock of medicines—unexpectedly great—have well nigh exhausted my resources in that line, and it is the same in Baines's case. It is therefore impossible to wait longer before coming to a conclusion. If I ever make up my mind to return hither, I must have four or six white men, or else American negroes, instead of all this gang; plenty of medicine, and every comfort that I can bring with me. I have nothing now but meat. If my brother has these comforts when we meet, and three or four men to spare, we may return at once from the lake. My fears for Baines, if left to himself, are great. I hear that he goes down at night to the sickly river to look for sea-cows! If he falls sick, who will nurse him?

Therm. 70° to 82° Fahr.

January 10th.—Komèho's wife, Kakom, and Komoa (the last messenger from Baines), are all sick of fever. Two of these had a guide with them from Wankie's, but he got fever, and they left him to himself and said not a word about it. To-day the man turns up here in a very weak state. From him I learn that the people who were at the river some time ago with guns were Mashonas (or Knob-noses), from below Sinamani's. These people belong to a tribe commonly known as Knob-noses, real negroes, who, fancying that Nature has not made them ugly enough, must needs lend her a helping

hand; with this view they decorate their foreheads to the tip of the nose with a straight line of cicatrices, cut in a peculiar manner with an assegai, so that the skin at each wound contracts into the form of a large wart-like protuberance, which, after healing up, shine like a string of black beads. They trade with the Portuguese of Tetè, and come here to retail, but this is their first trip so far inland.

We had last night one of the most frightful storms of thunder, lightning, and rain I have ever experienced. For an hour the lightning played immediately around the wagon, seeming never to strike more than a quarter of a mile from us. Flash and report were so instantaneous as to be quite appalling (therm. 74°). The rain poured down, and the wind blew with such fury that my bed was soon swamped, and I had a most miserable night. Sam, the only one hitherto free from fever, has taken it violently this morning.

In order to get an appetite I was obliged to institute a new dish yesterday, a kind of spinach which I knew in the colony. The natives here eat it, and the taste would satisfy anybody that it is wholesome. I wish I had a messenger to take a sample to Baines, with a note telling him how to cook it. The roots (madadi) are also good, but they want peeling and slicing. This root, I find, is the tuber of one of the *Cucumberaceæ*. Therm. to-day from 70° to 82° max. In the afternoon a heavy shower and loud thunder. All our stock of meat is putrid. We have cleared all the neighbourhood of dry wood, and have now to burn that which is green and smoky. The mosquitoes are maddening: no sleep in consequence.

12th January.—Yesterday (Sunday), continued sickness and headache nearly all day long. I was, however, compelled to act as cook for all the party. Last night was exceedingly close, the thermometer standing at 85° until past midnight. The mosquitoes were frightful: no sleep. To-day at sunrise and sunset the thermometer stood at 76° and 85° at noon.

Rain fell during the day. Old Dikkop is down with the fever, so there is no exception with the Damaras. All the last comers from Baines are down, and Edward keeps his bed. He took quinine this morning, but his mouth is blistering. The eruption on my head, which was nearly gone, is reappearing. These are generally supposed to be good signs after fever, and ought not to be checked. During the night wolves dragged a goat out of the kraal, but we gave chase and recovered it.

14*th January*.—Still the same record, both yesterday and to-day. Rain all night. Thermometer ranging between 68° and 70° at sunrise, and 72° at noon. Another goat from the kraal by a wolf, but we again recovered it. Lions roar and prowl about all night. The thermometer falls to 68°, and remains so all day. The whole neighbourhood is turned into a pool of mud, knee-deep, by the tramping of the people and cattle. It is painful to see one or two ghost-like forms, perfect skeletons, of Damaras, just up from their beds of fever, supporting themselves through the mud with walking-sticks, attending, as well as they are able, to their daily avocations.

16*th January*.—Yesterday five koodoos came in sight, one of which I wounded, and walked about a mile in pursuit, but returned thoroughly knocked up. This morning, after breakfast, I again went out in search of game. It was clear and fine and warm, but I felt the heat very much. I shot two fine male koodoos, and had an exciting chase over the rocky hills, but came home with a frightful headache. At sunrise therm. at 64°; max., 84°; sunset, 70°. Gave each of the Damaras their share of fresh meat. Lions disturb us every night, and sometimes roar while it is still daylight.

18*th January* (*Sunday*).—Yesterday, therm. 70° in morning; at noon, 90°; sunset, 85°. No news from Baines. I fear that either he or John must be ill. Now that I am recovering strength myself I begin to apprehend the full

measure of my disappointment, should we not get down the river this season. If Baines had only finished one boat before the people fell sick, we might have soon been on our way down; but how he is now to do it without a single hand to help him I know not. I know that he has done his best since he has set seriously about his task, and any hurrying from me would perhaps lead to exertions that might very likely cost his life.

This morning the thermometer, when I awoke (about 8 A.M.), was at 78°. I did not fall asleep until morning, owing to the mosquitoes. Lions about all night. They must get plenty of quaggas, or they would not pass us by in this way, without molesting us.

I notice that, fourteen days after the completion of two cells by the large wasps which I spoke of the other day, I examined and found in one an aurelia one-fourth of an inch long, oblong, reddish-brown, banded with brighter glossy bands of same colour. In the other the larva in a very torpid state, and a dull brown, instead of that glossy or crystal appearance. It will evidently now undergo a change. The caterpillars are all devoured, and the cells are overrun with numerous small insects, some white and some pale-brown, which looked at first sight like lice, the abdomen very large and rounded. They have feelers, or antennæ; and at a cursory glance through the microscope they looked like the grasshopper which is changed into the cicada. They do not like the light, and are therefore very restless in search of the darkest corner.

20*th January*.—Yesterday and to-day the thermometer ranges about 72° to 74° at sunrise; max. at noon, 90°; sunset, 84° to 87°. In the evening I saw three quaggas about a mile off. I got there before dark, and shot a fine male.

21*st January*.—At length John arrives from Baines. He

reports very little progress with the boat, and gives a most pitiful account of the condition of the people, all of whom are ill, reduced to skeletons, and unable to move for some time to come. Only one log is as yet sawn into slabs, which will have to be divided again into planks. In this state of affairs it is impossible that Baines can, single-handed, finish even one boat before the flood is over; indeed he himself admits that it will be impossible to get her ready for this flood. We seem doomed never to attain our object. Nor would it be possible to exist here another year without food and medicine. The game has all been scared away, and I have only 100 bullets left, besides a little shot. Some of the men are so ill that John does not expect them to live, and it will be some time before any will be able to move. Baines has, however, six oxen, which I sent to feed them up with; and as John has brought up thirteen bundles of our goods, I daresay about thirty more men will bring up what we care about having with us. The remainder will remain with Wankie, who is to build a hut for their reception near his own.

The only chance of final success now left appears to consist in the endeavour to get half a dozen fishermen from Walvisch Bay; but as I could not afford to pay them wages on a trip of such uncertain duration, I should have to allow them to keep the half or the whole of what they shoot, with perhaps the promise of a passage to Cape Town. The present trip has involved continual loss and disaster. The Damaras will have to be well paid, and I have nearly exhausted my stock of beads, wire, and a quantity of rugs and blankets, paying a numerous staff of porters. All this must be repaid, if ever repaid, out of a future trip, when I shall also have the expense of bringing a wagon thus far for the sole purpose of conveying us, as there is no trade or other source of profit in this country.

It seems to me the work of preparation must be done in

the winter, the party waiting quietly for the flood. If my brother has three or four suitable men who would accompany me I might perhaps return at once, as he will probably have with him such things as we stand most in need of; but I fear that my presence can no longer be dispensed with in Cape Town. Baines, happily, appears to be fever proof.

22nd January.—Move the wagons a little north, to be out of the swamp and mosquitoes. When the oxen came back for the second wagon I detected a tsetse on one of them. This puts a final stop to our progress. Rain at night and during the day. Two days afterwards we moved south to the fountain of Chabalesa. As all of us were sick we were only able to move one wagon; the distance, about five miles, occupied about half the day. It was then too late to go back for the other. John went out to shoot something, as we had literally nothing to eat—no pot, nor any utensil whatever. In the meantime we set to work to make a kraal. Happily John succeeded in killing a buffalo, which we sent the people to bring in. The cattle decamped at night, and the wolves annoyed us very much, trying to drag the Damaras away.

25th January.—The cattle arrive from the other wagon, but not the trek-oxen. They were, however, brought in during the afternoon, having been found on the borders of the "fly" bush a long way off. Rain almost without intermission, sometimes accompanied by thunder, during this and the following days. On the 27th Edward arrives with the other wagon. In the evening Snyman visits us. I am better next day, but the wolves prevent my sleeping at night. I send Snyman off to fetch Baines and the people up from the river. He takes ten of his own men, and I give him twenty-four. It is some satisfaction to know that Baines will receive the assistance he is expecting within fourteen days after John left him.

On the night of the 28th wolves came on in troops, assailing us from every quarter, and, notwithstanding the assistance of Snyman's pack of dogs, returned every instant; nor did they cease for the report of a gun, or the whizzing of bullets, but bit the dogs in return, and, like ventriloquists, imitated every possible sound, from the bellowing of a bull to the diabolical laugh of a maniac. Lions have not troubled us here as yet, and as we have not the means of making a proper defence, it is to be hoped they will not. When lions do trouble us it would be some satisfaction to have a fine pack of strong-lunged dogs to strike up an opposition chorus around our camp, but we have only very feeble ones. The wolves do not make use of their burrows as a habitation, excepting the females, when their young are small. They lie concealed amongst bushes and rocks on high hills during the day, and watch the movements of the vultures.

The Makalakas brought in eight young guinea-fowls (chickens), five of which have died. In their early plumage they are not unlike the young of domestic fowls, yellow, and striped over the cheek and around the eyes and neck with deep brown, showing no symptoms of the peculiar spotted plumage of their maturity. The mother roots up small bulbs for them, and breaks grasshoppers into pieces. They lay sixteen eggs: in a domestic state they lay a great many. They are very delicate, and great tyrants amongst domestic poultry.

29th January.—Send five other men to follow Snyman. Last night the wolves as bad as ever. One dashed at a circle of Damaras sitting around a fire, and seized from them the buffalo hide on which they were regaling. I was sleepless from fever, accompanied by frightful headache, all night. After daylight, when I had dropped asleep, a fearful thunderclap close alongside the wagon startled me exceedingly, and

the rain poured down, deluging everything, and making it impossible to find a dry spot. In the afternoon I felt compelled to go out hunting, but found myself too weak to accomplish anything, and was obliged to return. Next day we saw some quaggas and pallahs, but I could not get a shot. Wolves continue to trouble us.

31*st January*.—Rain at daylight, the water pouring into my bed. During the last week the thermometer has been low, seldom exceeding 80° to 83°, and during the first three or four days never more than 73° during the day, though the evenings were close. There is an appearance as if the long-continued and heavy land-rains will now disappear, and be succeeded by thunder-showers. I hope it may be so. The quantity of rain that has fallen during the last few weeks is almost incredible, and the country is converted into a mere swamp, swarming with frogs and mosquitoes, the noises of which are insufferable. I imagine the cause of the abundance of rain, and consequent unhealthiness of the country, is owing to the fact of all the rain-clouds and fogs coming from the north-east, and lodging against the high ridges (running south-east) which lie south of Daka. All the watery clouds driven up from beyond Sinamani's receive here a check by these hills, over which they pour unsparingly their watery contents in such quantities that although the whole country is intersected by sloping ravines and valleys, there is not sufficient drainage for the water. Many even of the tabular hills, although with steep, abrupt, and rocky sides, are now little more than a swamp, while the intervening levels are almost impassable, and the black earth is concealed by the profusion of sweet grass, which grows here six feet in height, with an occasional sprinkling of tambookie grass, a few feet higher. The higher, naked-looking hills are covered with a short reddish sour grass, and the wooded hills and slopes a little lower exhibit a profusion of grasses, shrubs,

creepers, and wild vines, all matted together in an exuberance that can scarcely be imagined. The seeds of the tall sweet grass are eaten by the Makalakas as a grain.

1*st February.*—An easterly and rather bracing wind is blowing. Visited by some Makalakas, who generally, when they want anything, or smell anything, bring us a few roots (the madadi). These are, however, quite a treat, and I have some cooked every day when I can get them. In the afternoon Kallokollo and Kamatudle, two of the men, with the wife of the former, came up from the river, having been ten days on the road. Baines writes that Wankie will not take charge of our things, as he intends to remove after the harvest. One of our men, and the best among them, had died.

Weather fine, therm. 86°. I had a long walk, but saw nothing: found a beehive. I asked a Makalaka, on hearing the wailing of the Damaras, why they wail in that way. "Are they crying?" said he, "I thought they were dancing or rejoicing (*biena*)."

4*th February.*—The weather continues showery; to-day it is cloudy, therm. 80°. We can find absolutely nothing to shoot at. The Damaras are eating the wood of a three-lobed sterculia, and we are obliged to kill sheep for ourselves.

At 2 o'clock I took my blankets, and went out for a day or two west, Edward accompanying me. Waded through a large vley, or swamp, where we saw snipe, and reached a native village on its banks. The natives were friendly, and gave us a hut, some roots, and sweet-reed. The mosquitoes soon drove us out of the hut, and the rain drove us in again, but at last we decided that it would be better to brave the rain than the mosquitoes.

5*th February.*—No game anywhere. Two young men accompanied us seven miles farther west, to another village, where, as well as at the last place, the corn was beginning to

ripen. Saw two quaggas and two pallahs, and although I got within twenty yards of them to make sure, my caps were spoilt by the damp, and I got nothing. At night encamped on a hill, I should think about 1,000 feet above the level of the "Falls," and more than 50 miles from them. My attention was attracted by an unusual sight for this season, namely, smoke in the distance. I watched it for some moments, and finding it quite stationary, exclaimed, "Look at the Victoria Falls!" This was after sunset, and

VIEW NEAR THE ZAMBESI.—TROOP OF QUAGGAS.

the horizon then was clear. I asked the inhabitants of the village, in order to make sure, what smoke was that? "It is Seungoè at Mashotlaan's;" and on further inquiry I learned it is visible every evening in clear weather after sunset. I took the bearings by compass, and found it 30° east of north, from a distance of about 12 miles direct west from our camp.

I had made another unsuccessful hunt farther west, blistered my feet, and got nothing, although there were plenty of quagga spoors. Was seized with a peculiar faintness, weakness

in joints, and severe headache. Presented by the Makalakas with a leg of a wildebeest. They had killed several animals with the boleo lately. Mosquitoes on the hills very troublesome. Fearing an attack of illness, we returned next day to the wagons, suffering much from faintness on the way. On regaining the wagons, I found five Makalakas with packages from Baines, but no letter. They report three Damaras left behind on the road, too ill to come on.

TABLE OF TEMPERATURE.

			Sunrise.	Noon.	4 P.M.	Sunset.
Sunday,	8th Feb. .	Fine	—	70°	84°	85°
Tuesday,	10th „ .	Showery	70°	80°	90°	73°
Wednesday,	11th „ .	Showery	70°	78°	80°	78°
Thursday,	12th „ .	Cloudy	72°	80°	80°	75°
Friday,	13th „ .	Showery	72°	84°	84°	80°
Saturday,	14th „ .	Showery	70°	76°	82°	78°
Monday,	16th „ .	Cloudy	68°	82°	86°	82°
Tuesday,	17th „ .	Thunder, &c.	70°	83°	86°	82°
Wednesday,	18th „ .	Rain	69°	68°	75°	82°
Thursday,	19th „ .	Fine	70°	80°	82°	86°
Friday,	20th „ .	Fine	68°	82°	84°	75°
Saturday,	21st „ .	Rain	66°	84°	86°	76°
Sunday,	22nd „ .	Cloudy	70°	80°	80°	76°

Every morning the day commences fine; as the heat increases at 10 or 12 o'clock large white clouds gather around, alternately shading and heating us.

10th February.—In spite of illness I have been obliged to go out in search of food; but yesterday, as on several recent occasions, I returned unsuccessful. To-day, after breakfast, a note came from Baines to say he was near, and had shot a fine koodoo. I went out to meet him; he had, however, left the point indicated in his letter, but in returning I stumbled across him in the veldt. He looked well, in fact he is the

strongest of the party, though he was last year more susceptible of fever than any of us. He has left Snyman on the Zambesi, to bring up the sick people and the porters with the goods. Two of the men, who cannot be expected to live, have been left with Wankie, Baines having entered into arrangements with Wankie, on my behalf, for their keep. Jem and Anthony he has also left at the river, but has made arrangements with Snyman to go back with his men and bring them away. Jem was very weak, and Anthony had a fit of ague coming on. Three of the men whom he had sent on some time ago, with guns and pistols, are not to be traced. Lukoba, a native chief, sends to sell me a tusk of ivory of an elephant, which I myself shot, and Nechèngi sends me a present of one, and a request that I will come and buy his ivory. I thank him, and say I am not in the habit of running after ivory, but that people come to trade at my camp.

On the 13th, a Mashapatani, in great glee, came from the west, bringing sweet-reed and green mealies. Shortly after, Snyman, at the head of fifty-seven carriers, made his appearance, to my great gratification; but the news he brought soon made me as sad as I ever felt. Four of our party are still at the river, unable to come on. Anthony was left in a sad state, making desperate attempts at suicide, about one day's journey this side of the river, and Kano, though nearer, is not expected to reach us at all, having gone mad! Anthony has, moreover, had another fit of epilepsy. Dokkie and some others arrive, the former suffering from fever. I cannot attach blame to any one about the desertion of the sick people. Baines says he would have stayed there, had not Snyman urged him on to the wagons, promising to look after Jem and Anthony, but he failed to do so. Anthony came on about 20 miles from the river, when he fell into a fit, borrowed a knife, and began cutting his own throat with it. In this

state of affairs I immediately made arrangements with Synman to start off early in the morning to the assistance of the sufferers, with men to carry them, if necessary. He takes eight men, and I give him five more. I also send by him 3 lbs. of beads to Jem, 3 lbs. to Anthony, and 1 lb. to Kano, and make him a present of a double-barrelled gun, for overseeing the Makalakas who went to bring up the party.

Snyman starts on the 14th, about 9 A.M. I pay off twenty-two Makalakas, and began to pack the wagons. We will have to try and get over the Chowè, to be near the native gardens, where we can get corn, although it is about the most dangerous place in the world at this time of year, for this is the season in which the Matabele commence their depredations and massacres, and the natives live in a state of constant anxiety and fear.

Dokkie and Bill maintain, in opposition to Baines, that they never were really starving, or even suffering from hunger. They say there was always plenty of meat and corn, but they were too ill to eat corn, or anything else. In fact, they give Baines credit for more attention to their wants than he had believed himself to deserve.

One thing, at any rate, is sufficiently obvious: the work that has been done at the river is literally next to nothing. One block of wood is cut up into thick slabs, which, according to John, requires dividing. Three planks are nailed on one boat; twelve or fourteen large blocks, upwards of twenty feet long, are lying about, all to be lifted on the trestles, and cut up, before the boat can be commenced in earnest.

16*th February*.—As thewagons were packed ready for a start to some more healthy locality, where we should stand a chance of getting corn, I went on, leaving orders for John to follow with the wagons next day. I took my blankets with me, carried by two lads, sons of the Makalaka chief

residing at Chowè. On reaching Chowè found no signs of people; fired a gun, and in about a quarter of an hour five Makalakas, each carrying about five spears, made their appearance and conducted me to the village, situated about two miles west of the wagon drift. For the whole of this distance my path led up the valley, through corn-fields and long rank grass considerably higher than my head, from the roots of which—besides the resinous smell of the tambookie grass—arose a nauseous and rotten odour, very unpleasant to travel through. All the low lands or valleys, which have a thick crust of vegetable mould, overlying pot-clay, are now covered with tall grasses, some patches attaining the height of an elephant, and conveying the idea of relationship to the bamboo. Other narrower and deeper valleys, through which run sparkling streams, contain grasses with almost the density of the broom. So compact is this mass of exuberant and now decaying vegetation, that I was enabled to cross more than one valley by walking on the grass, which formed a bridge a foot above the ground, and passed over streams of water without getting the soles of my shoes wet.

I found a very pretty little spider; the abdomen shaped like a conical ball, standing point upwards, and having the appearance of shining silver; underneath it is reddish-brown. I observed everywhere on the stems of the grasses a great many of the insects (kolokoè) which envelop themselves in a ball of froth. A pair are always to be found inside the ball of froth, which is the size of a small walnut. The largest of these insects is about a quarter of an inch long, or less. It is of a bluish-white ground colour, or pale slate, darker about the middle, and a white stripe down the back of the body, which is rather abdominous. The back of head or neck is spotted with brown or black. Belly underneath, ditto. It has six legs, each of which has a white spot at middle joint. Eyes sherry-coloured, seated far back, and two short, rigid antennæ, like

two short hairs. Seems to have embryo wings, or a short jacket, covering the junction of thorax. Abdomen erectile, and is forced out to double its ordinary length every few seconds, with what view I do not know. Abdomen faintly and narrowly striped transversely.

On arriving at Tsebojewa's I was welcomed on approach by the notes of the m'biela, a mark of respect. I was, however, too ill to make proper acknowledgment of the hospitality of the chief, who brought me a water-melon, sweet-reeds, a large dish of pap, and a made dish of melon tops and melons. Next day, feeling better, I made a wide circuit in quest of game, but found nothing, although spoor of quaggas was plentiful. I came round by the wagon road, but found no wagons had arrived: walked to Reader's old camp; saw nothing of them, so returned with my blankets to Tsebojewa's. Presently after Baines arrived, more dead than alive, having had nothing to eat all day.

On the 18th I started at sunrise in the very necessary search of game, and after a tramp of five hours through wet grass, returned unsuccessful. I found here a peculiar fungi growing on the wood of the mopani. It is honey-combed on the underneath side, like the working of bees in hexagonal cells; the outside has the usual wavy-wrinkled appearance of wood fungi.

The weather during the past months, since the rain fell, has been on the whole exceedingly wet. For the last three or four weeks, however, the heavy clouds and long-continued fine rains have left us, and since then we have had what seems to us fine weather, the day generally commencing with a clear, unclouded sky, which, as the heat increases, soon becomes dotted over with large white clouds. A little after noon these clouds seem to diminish, or are driven to the westward by the breeze, generally coming from the east, sometimes a little northerly, and sometimes southerly.

Towards evening they condense again, and generally bring down a shower about 4 or 5 P.M., though showers sometimes fall in the forenoon, and sometimes in the night, owing to the drawing together of these clouds; but after their watery contents have fallen to the earth all is clear again.

Previous to the month of November, the wind, which blew pretty regular from the east and E.N.E., came in hot, scorching blasts, in comparison to which the heat of the sun's rays itself was mild. When the sky began to look watery, the wind seemed gradually to veer round to the north and north-west, and, rising in strong gusts and meeting the storm from the east and north-east, would clash, and pour down its flood, generally accompanied with thunder and lightning; not, however, excepting on one occasion, exhibiting the continuous and terrific force which is met with on the south-east coast, but generally passing away. The months of November, December, and part of January, were extremely wet, the rain falling sometimes four to six inches in a few hours, yet always leaving the sky as black and watery as possible, and the daylight as gloomy and obscure as the dusk of evening.

Edward came up to say the wagons were both stuck in the mud some few miles back, and an axle broken. Both Baines and I are suffering from alternate fits of ague and fever. Tsebojewa has been no niggard in his hospitality to me. He sent abundance of food regularly every night. Now that the fever has become regularly intermittent, I always know when it is coming on by slight aching pains in the bones of all my limbs. I do not always get a regular shaking fit of ague, but sometimes only a slight cold tingling.

19*th February*.—After a substantial breakfast, concluded with a water-melon and some sweet-reeds, Baines and I started back to the wagons. I found the latter more than a mile out of the road, and in the midst of a nasty swamp. The

people were encamped not a foot above it, so I sent them to form a new camp a few hundred yards away, while the others went off to the more agreeable task of fetching the flesh of a quagga which I had shot. Some Damaras were left at the last camp not able to come on yet. Sent back a share of meat to them. Next day we commenced a false axle, and got the front half of the carriage out of the muddy swamp up to the camp. The wolves troublesome at night.

21*st February*.—Sent April to some Makalakas to try and get corn. Baines very poorly. John, who alone is able and willing to work, is cutting the wood for a new axle. There are but four or five adults among the Damaras that are not sick now, besides three mere lads, and those that are sick seem to feel no interest in recovering or getting out of this swamp. When the least sickness overtakes these savages, they lie down and remain down, enfeebling themselves by their own inertness. A fearful wound in the hand is nothing, nor are they sensible of the most severe castigations: indeed, I believe that a Damara will voluntarily submit to a few dozen with a shambok for the sake of a day's good feeding. I have known some in service with the Hottentots run the risk of a great deal more for very much less. When my men are not smoking or eating they are coiled up sleeping, and their time is pretty equally divided between these three employments.

The reddish-brown ant, which I have mentioned before, is here a perfect nuisance. They do not bite excepting when seized, but they crawl over one in a most unpleasant manner. They are most ravenous and persistent animals, and dine with us regularly. Sometimes I have the margin of my plate covered with them, making most violent efforts to carry off a piece of meat fifty times their own weight, and at length the whole plate is covered with them. They are

reddish-brown, abdomen deep brown, with longitudinal stripes, and fine greyish down.

22*nd February.*—I noticed John's teeth very black this morning, and expected he was not all right. He did a little to the axle, but soon had to lie down. Pompey and Sam also sick. My body is beginning to have a very strong and unpleasant effluvia of fever, yet I dare not go into water. My gums and jaws are very sore, and I feel at intervals sharp stinging pains, like ant-stings, all over, especially when disturbed. I always feel the fever first approach by pains in the points of my elbows, joints of knees, &c. Last night, as I dozed off, something bit me in the arm. The pain was like a fire-burn; it flew up my arm and into my side in spasmodic stinging pains, which continued for a long time. The arm is quite benumbed and painful this morning.

In the afternoon Anthony is brought up, carried by Makalakas. He speaks in the greatest admiration of the hospitality of the Makalakas, and the chief, Mashafi, and of the abundance of food they gave him. Kamatudle left the other party to get into the Daka road, and has not been heard of since. He was alone. Anthony has had the fever badly. He looks miserable, is in good spirits, and eats well, but has lost the use of his legs.

23*rd February.*—Get Snyman to help with the axle. Therm. (in our tent) at sunrise, 64°; at 8 A.M., 88°; at 3 P.M., 88°; at sunset, 85°. Took a long walk, but got nothing. Heard the cry of a jackal for the first time in this country. The Bushman says it is a sign the rain is over.

24*th February.*—Therm. at sunrise, 80°; after breakfast, 97°; noon, 95°; sunset, 85°. Visited by Tsebojewa, with present of corn, &c. Other visitors to trade with ditto. It is quite a relief to see these first fruits come in so bountifully—an earnest of a good supply. The axle is repaired,

and the wagon pulled out with great trouble. At night Baines got a latitude: 18° 30′ 30″ S. Next day again visited by Makalakas, with corn, &c. Pack the wagons. Therm. at 8 A.M., 92°; at noon, 100°.

An ox fell into the swamp, and the men were half a day trying in vain to dig him out, until John was obliged to go to their help. It became cloudy, with thunder and a sprinkling of rain. Therm. at 4 P.M., 80°. Caught some pretty spiders (silk-making), and preserve them in collodion. Therm. at sunset, 80°.

This afternoon the Damaras set up a melancholy "keening." I thought somebody was dead. On inquiry found they were weeping for their country. Two Makalakas, whom I had sent to the Zambesi for some powder which had been thrown down at the Zambesi and left there, returned. They report Jem and company at Mashanga's, still eating corn. Two women came up from the last camp, stating that Dikkop and his wife are still there. Dismiss Snyman. Learn from our people that there is no doubt of the fact that three of the six oxen sent to the river had real lung-sickness. Here is a new calamity, which shows plainly that the inoculation of our cattle was ineffectual, and if so, a large proportion are affected. What will become of us?

26*th February*.—At sunrise, therm. 70°. On waking found that Kamatudle had been brought in by a Makalaka, who picked him up. He has thrown away the only thing he had to carry—a light parcel containing my case of mathematical instruments and sundry maps, amongst which was a neat little pocket map, the gift of Sir George Grey, which I prized more than all the rest. Baines also had in the parcel three or four pocket-books, containing thermometrical observations. We travelled on to the farthest end of the sand hills beyond Chowè (seven miles), where we halt to buy corn, and make a new axle altogether. The march is most

straggling and disorderly. Those who felt well this morning are all laid up again, and many have not come in.

At dinner we had rather an unceremonious intrusion of Makalakas squatting themselves before the tent door. Their looks denoted some communication of importance. They came from Tsebojewa's in haste, to tell me the news that the Matabele had yesterday attacked their village near Daka, and murdered many of its inhabitants. Two or three had escaped and passed the wagons an hour ago on their way to Tsebojewa's. They do not know how many were killed, or how many taken, having fled in the greatest terror, leaving all behind them. In consequence of this calamity Tsebojewa has sent this embassy over, with an urgent request that I would "divine" (bola) for him, and let him know his fate, whether the Matabele, when they move from them, will come hither or go elsewhere. He says that my word will decide whether he will stay here by me (his father), and eat his corn without fear, or fly to the mountains. I believe he would be fool enough to do so, such confidence have they in the "Book," and the white man's power of divining from it. I of course denied all power of divination, and told him I could give him but poor advice or consolation. He knew the Matabele and their ways, and could form a better judgment of their possible intentions than I could. The only thing that I could say in the matter is, that, if certain of his information, a wise man would keep spies out watching their movements, who could give them timely notice of their plans; that was the only way white men found out such things; and that all else was beyond man's power, and belonged to God alone. At this reply they were rather crestfallen. Shortly after, as I could not remember the name of a place I wished to inquire after, I referred to my journal. They, being familiar with the name, looked upon this as an act of divination, and exclaimed, "Hear him! he says he cannot divine,

and yet who told him that name? The Book—but never mind," said they, consoling themselves, "his heart will soften when Tsebojewa comes over himself in the morning."

As the distance is only eight miles, we made preparations for such defence as might be required. This is the most likely place for the Matabele to come to, as it is the next village; and here are two or three chiefs assembled who made some resistance last year, and escaped with a portion of their families. This morning a very pathetic parting took place among the Makalakas, some of whom were going home from my wagon, where they had been employed for some months. April also wished them "God speed!" "Don't," said they, in a pathetic tone, "hope so well for us, or think that you will ever see us again, for we go to death; and whenever you hear of us again you will only hear that we have been killed by the Mapoona." These, and similar exclamations, are common at partings; and now that the corn is ripe is the time of dread to all the tribes.

27th February.—Last night, rain, with thunder and lightning. The wolves troubled us very much, first dragging away a goat. I fired, and it let go its hold; the dogs then gave it chase. It soon returned, however, and seized another; and, foiled in this also, next seized a woollen blanket from off a sleeping Damara, with which it went off and satisfied its ravenous appetite. I received a water-melon from Tsebojewa, by the hands of April, who says the women and children have all fled to the bushes, the men alone standing guard at the village. As he did not make his appearance this morning by 10 o'clock, we concluded he had also fled. As we could find no suitable wood for an axle, we prepare for a start to Daka, where John had cut and left an axle when last we were there. The Matabele are said to be somewhere in the neighbourhood of Daka, destroying the people and devouring the corn-fields before making another move, so that they may soon be expected

here. If they intend violence to us I fear we are not in a condition to offer much resistance. I went ahead to reconnoitre, but saw no signs of life. While resting under a tree I heard footsteps close behind, and, with my imagination full of Matabele warriors, started up in some alarm. A waterbuck bounded away in affright from within a few feet, and halted at a hundred yards. I had just time to seize my gun and knock him over, on the spot where the wagons are to camp. We got two bottles of milk from this animal, which was the more welcome as our cows' milk was curdled. It is of a greenish colour, but tastes well. About 4 o'clock the wagons arrived, Baines not with them. I got foul of a large nest of hornets, which attacked and stung me all over the neck and face. I feel some considerable regret at having to leave the hill-top this morning, the pure air being very invigorating after our recent experiences. This morning we overlooked the whole Daka valley far at our feet. Now we are encamped at the very bottom of it. Therm. at sunrise, 66°; mid-day, 85°; sunset, 60°.

CHAPTER XI.

The Camp at Daka—Native Flora—Night Encounter with Lions—Damara Superstitions—Makalaka Customs—Abundance of Native Vegetation—Progress Westward—At Juruga—Native Fruits and Insects—Characteristics of the Desert—Small-pox.

28*TH FEBRUARY*, 1863.—Last evening a great deal of thunder, after which a clear, quiet moonlight. Our camp at Daka is about fifty feet above the water, which thunders past in a strong torrent over smooth and slippery rocks. Since descending the sand-hill, on this side (south), the country is more open, less bushy. The base of the hill on the north side is strewn with black and white pebbles of agate, quartz, and fragments of hard reddish stones of fine grain, with lumps of a rusty-looking conglomerate cropping out of the sand on the edge of the sand-hills. On the south edge a hard, fine, whitish, and cavernous-looking sandstone crops out, beneath the same brittle dark grey rocks as on the north.

Near Daka we come to vertical strata (dip declining slightly northwards) of mica schist, rising 400 or 500 feet high, with a broad belt of white quartz on the south. I took a long walk over the hills to the north, and came round by the head of the Daka fountain. The sun was exceedingly hot, and my head ached severely; finding a very pleasant shade amongst a profusion of aromatic herbs near the margin of the stream, I plucked bunches of wild peppermint, and of another herb with a delicate geranium odour (used by me as a substitute for tea), and enveloping my head and face for half an hour

inhaled a most invigorating odour. This last is a dwarf, straggling plant, found on old homesteads; leaves ovate, margin indented. Colour light green, margined with red; the seeds look like farthing rushlights, rising three or four inches from a folding sconce. The whole is downy, excepting the upper side of the leaves, which have straight indentations, leading obliquely from the margin to the midrib. The leaves are one inch long. The flower, pink, streaked with darker red, is about the size of a threepenny-piece. It has five petals, five sepals, and I count about fifteen stamens; the latter form a whorl round the pistil, and are divided into five sections of three filaments each. The coronet on the pistil is composed of five yellow anthers larger than those on the stamens.

In the evening, April thought he saw some quaggas. We went in pursuit, and, crossing two deep streams, came up at sunset with a troop of more than a hundred elands. The cap of my rifle snapped, after I had stalked them half a mile barefoot. They bounded over one another with the lightness of kids. I ran after them barefoot until dark. I got two long shots, but, killing nothing, return, and lose my way in the dark. The Makalakas seem all to have fled the country, doubtless from fear of the Matabele.

The vegetation here is very rank. Cattle fatten faster in the summer: for sheep and goats it is rather wet. The former get inflammation of the lungs and liver, the latter foot-rot. There are two varieties of the murutonguê of the lake; the one has a large oblong downy leaf; the branches of the other are short, rigid, and spinous. The fruit of the larger is best; the smaller is bitter and acrid. The natives obtain from it an oil for anointing, by pounding and separating with hot water. The gwarrie, here called shangulie, seldom bears. Gourds, eatable and uneatable, everywhere clothe the ground. Ombuka, a kind of spinach, grows near

the water's edge; and mint, and a fragrant herb with geranium odour, line the hill torrents, or sites of old townships. Under the shadow of the "wagt-een-beetjee" grows the dalasinte, a straggling hybiscus (?), with beautiful yellow flowers, like the cotton flower. The bulushadumulu, a delicious little greenish brown fruit (of the matangula family), grows under the shade of the mopani. A large, oblong, purple-staining berry, on a short and rigid shrub, grows in stony ground. N'kwedzi, a similar dark-purple, but downy, berry grows in the sand, where various sweet and acid berries and medlars (maramas) are found. From between a profusion of low bushes, matted and tangled with convolvuli, chiefly lilac, yellow, and white, and the sweet pea, the earth sends forth its denser harvest of nameless grasses. Coarse and rank in the valleys, and soft and sweet against the slopes, and fine, though tough and acid, towards the higher summits. Amongst the grasses the seeds of the shonda and manga are, with the natives, a substitute for grain. The petawalie or egg-plant, but with small and insignificant white flowers, grows in the rocks, climbing the sandal-tree with the wild grape-vines, and magulie blossoms, and a large-leaved passiflora conceals every vestige of the tree it embraces, while here and there, near the site of an old village, camp, or garden, whose inhabitants have been murdered, stalks of corn and millet are found spontaneously ripening, and pumpkins and calabashes hanging like monster pears from large and shady trees.

1*st March*, 1863.—The beginning of another month, and the worst for fever. Baines and John at work on the axle, which advances but slowly. I sent April to Tsebojewa to get information about the Matabele, procure guides if possible, and inquire about corn, &c.

Therm. this morning, 77°. Yesterday morning the same. From mid-day till the afternoon late, it is stationary at 90°. Yesterday evening at sunset, 80°. To-day, 85°. Clouds high.

Yesterday wind northerly. To-day westerly. A good deal of thunder gathering every morning; clearing at noon, and gathering again in the afternoon. This appears to be a healthier locality, though lower, than those we have lately left. The vegetation is not quite so luxuriant, the ground more stony, and a good drainage in the swift streams running into the Luluesie. In the immediate vicinity of the streams, however, the grass is rank enough, and as this is a noted place for lions, one is in constant danger of stumbling over some in crossing the long grass.

2nd March.—Last night three lions, crawling up to within a few feet of our fence, were assailed by the dogs, who went boldly at them, thinking they were wolves, as usual. They retreated at first, but speedily returned, one of them giving a startling growl within a few yards of my wagon. I seized the first gun I could lay hands on; but it was a shot gun, which I would not discharge at his retreating figure, which appeared white as snow under a bright moonlight. Again the dogs took courage, seeing me with a gun, but the lion came bounding after them, and upset one, whom I at first thought was killed. He howled, but was after all only frightened. I called the dogs off, and sat watching for the foe, gun in hand. Hardly five minutes elapsed ere I saw the lions crouching within forty yards. The moon was slightly obscured when I attempted to fire; the gun missed, but disturbed them a little. Two turned as if ready to fly, the third stood still, and I fired into their midst. They bounded off in the long grass, and I heard no more of them.

Tsebojewa arrived, bringing some corn as a present, and I gave him some little things in return. The Matabele have fortunately returned homeward: it proves, after all, not to have been a regularly organized commando, but a marauding party under Zalèla, an under-chief, from one of his outposts,

comprising chiefly Makalakas. They killed all in the village (about three miles from here), except the few who have escaped to Tsebojewa's. Therm. at sunrise 70°; mid-day (thundering) 85°; sunset 80°.

3rd March.—Dikkop, who reached the camp yesterday, came to ask me for a kid, saying that when his wife died, a few days since, her sickness entered his body, and that he must have the paunch of a young goat to rub the dung over his body, and thus drive it out. Not wishing, at the present moment, to run counter to this prejudice, which he shares in common with his fellows, I gave him one. He did not, it appears, bury his wife, but left her in his hut. The Damaras are very superstitious in these cases; when Kagehumba died, and Baines buried him, they upbraided him that he did not throw the body to the wolves, for they say he cannot rest in the grave. They went several times to Kahechie (the man whom Baines left in the dying state at the river), and slapping him on the thigh, said, "Kahechie, come! you must come to me; I want your company, for it is lonely in that hole!" In like manner, pointing to two of their sick comrades who formed part of the company, they said to Baines, "You must throw them away, and let the wolves eat them, then they won't come and bother us." This morning I overheard Dokkie, the wagon driver, abuse Baines for merely marking the left and right wheels to know them again, saying he was bewitching his wagon to make it break.

In the afternoon I killed a water-buck. During the march, April said, "I smell fire, father! there are people near," and keeping up the face of the wind, he soon sniffed it out. Two men bounded away through the bushes, and, following quickly, we discovered two of my Damaras, whom I had sent back this morning on the track of the wagon, to look for a lost *skein*, the iron mounting of one of the axle arms; instead of doing which they had been lying here all day roasting

lunchies. To-day, thunder, and a shower of rain. Therm. at sunrise 66°; max. 90°; sunset 85°. Water boils at 206$\frac{3}{10}$°.

Wednesday, 4th March.—Last night rain and successive thunder-storms. I have for some days been suffering from headache, and return of a stinging eruption on the forehead, neck, breast, and shoulders, which I had fancied was the sign of returning health after the first attack of fever; a great soreness of the gums and mouth inside. Anthony is as yellow as a guinea, and though well enough in spirits he cannot get the use of his limbs as yet. His has been a combination of fever and epileptic fits. Several of the Damaras, whose appetites, at least, are good, still display their foreheads daubed all over with cow-dung every morning, or tied round with a leathern thong, and perhaps another round the breast; the women have the same appendages over their pendant bosoms. Bill is still very low. He and Anthony suffer particularly from palpitation of the heart. After the first fever which I had, the cuticle rubbed off my whole body. Bill has suffered in the same way. Edward has had no more than the first slight or partial attack of fever. He has an almost constant prickly heat all over. Therm. max. 90°; at sunset 85°.

5th March.—Baines has been busy putting false cheeks to the tongue of the wagon, and is making a good job of it. I put the skein in the axle. The Damaras are becoming perfectly indifferent to my commands, and I sent two of them about their business this morning. Therm. at sunrise 70°; max. (3 P.M.) 90°; at sunset 85°.

March 7th.—The temperature sank to 62° during the night. A heavy shower in the afternoon, with scarcely any clouds, the sun shining brightly on the large sparkling drops.

Some Makalakas arrived with shields and spears, which they leave at a distance, as well as their sandals, and

relate the whole affair of the Matabele attack, and how they happened to escape by being from home at the time. How men, women, and children were carried off prisoners to Moselikatze, while the Matabele went off in quest of other villages to the north and north-east. Other Makalakas brought corn, and, as usual, some as presents, some for sale. The pumpkins are a treat, and the water-melons too, though of very inferior kinds.

The Makalakas have the same prejudices with regard to the flesh of certain animals that other tribes have. One man starved himself for a whole day because it was his *motupo*, as they call it—not to eat the water-buck; another, because he worshipped sheep, and could not eat the flesh. The Makalakas generally *biena** the ewhobo (meerkat). The Mashapatani biena the shoko, or baboon; others worship the crocodile, and other animals and reptiles, which they will not defile themselves by touching.

When settled, and not driven to the precarious mode of life followed by the Bushmen, who hunt all day for roots, bulbs, tortoises, &c., and meet together in the evening to share and devour their spoils, the Makalakas have two meals per day, one on rising in the morning and another at full noon. The men have separate huts; the head-man, or chief, never visits the houses of his wives, excepting that of the principal one, whom he married first, and then does not enter it, making but a short stay, and saying but few words. The women visit him with pots and dishes of food, and, on invitation, share the honours of his bed alternately in his own hut. The principal men, and also groups of old men, eat together; young men just entered into manhood do the same; these will pass their dish, with the leavings, to younger brothers, who are also found grouped together. The male sex eat out of dishes; females eat out of pots; young girls eat in

* A superstitious reverence.

pairs, who are generally comrades. Their ceremonies in love-making and marriage are something similar to those of the Bechuanas and other black races. A man wishing to marry a certain girl, sends a deputation to her father to treat for her; when a favourable or hopeful answer is returned, he sends again, but this time pays down something, an earnest of the bargain; and after this he visits her occasionally at her father's village, always taking with him beads or any other valuables. These payments are made by instalments while the girl has been growing up—for she may have been a babe, or even unborn, when first betrothed—under the care of her own family, who are bound to bring her up until the age of puberty or circumcision. Some tribes of Banamjua, to the east and south-east, circumcise, others chip the two front incisors. Beyond Sinamani lives a tribe, Madomwè, who wear only twisted cords, made up of tree bark, in front; the women wear them behind also. The Banamjua, like some other tribes, have a superstitious prejudice against deformed or ill-born children, and put them to death. If twins are born they kill both. They have no recollection of Albinos. The mother requires purification. They kill their own offspring thus occasionally on religious, or rather superstitious grounds, but cannot conceal the horror they feel at a Damara abandoning his wife before she was dead. They entertain a great respect for Englishmen, who they say have a "moya," which means something more than a heart —a soul.

Tsebojewa came to pay me an affecting farewell visit. He made a most sensible and very pathetic speech on parting, so much so, that I had some difficulty in keeping my eyes dry. He drew a touching and melancholy picture of his own probable fate, and that of his race, before I could return to this country again. He has always been civil and obliging, his people honest and exceedingly hospitable. Since they

have planted and reaped, he has never visited me without bringing with him some corn, pumpkins, and water-melons. I have ordered the people belonging to his village about on long errands, as if they were my own, and have never lost the most trifling thing, although they, conscious of their own innocence, often allow their curiosity to master them so far as to handle and squat down in the midst of numerous and, to them, useless, as well as useful things, which in any Bechuana or Makololo village would not be safe for five minutes. I have had a few hundred Makalakas in service at various times lately, and they have never stolen anything that I have missed. They have frequently brought up articles lost from the wagon, and to-day even a tin pannikin, lost some days ago. In defence of their innocence, when charged with any dishonesty, they swear by fire (moto).

Tsebojewa, at my request, sent off to look for Jem and company, and bring them up. He shared with all his followers a leg of mutton I had given him, and smoked incessantly the mbanje (dagga). At home, these people smoke through a comfortable oblong gourd half filled with water, narrow at the top end, where a reed is inserted, on the upper end of which the bowl is fixed. The lower end of the hollow reed descends to the bottom, and they inhale from a square hole, cut in the side. This pipe is called elesha. The chief made many apologies for not having been able to supply me with water-melons in the quantity he could have wished, as the gotutu (a wild bush-boar of nocturnal habits) nightly comes to destroy his melon fields; at which time he assures me it would be almost as unsafe to encounter one as a lion. A trait in Tsebojewa's character, which made a favourable impression on me, was his exemplary affection displayed towards a deformed son, who is constantly at his side, and is not suffered to be insulted or maltreated by anybody, every one seeming to render him service equally with his

father. Unlike all the other natives south of this, the Makalaka men here build the huts, make fences, and take the most prominent part in "chopping" up the ground, planting weeding, &c., and, indeed, at this sort of work neither man, woman, or child are sluggards.

8th March.—Start with two guides for the road which goes due west into the desert, by way of a vley called Masammi, occupied by a Bushman chief. Gave the sick Damaras food, telling them to keep together and to come on slowly. I walked ahead for eight miles, and waited in vain for the wagons; and then returned and found them still only two miles from the camp, where they had stuck in a gully, and one of them had broken a dissel-boom, or pole. Owing to the uncertainty of finding water, I changed my mind in favour of the southern route; but the guides refuse to accompany us, as it is in the route of the Matabele. We mended the dissel-boom next day, but were prevented by a heavy shower from starting.

10th March.—Start at sunrise. Therm. 70°. Stopped by the Daka swamp, and had to go north to get into our northern road and cross at the stony ford. Buffalo spoors numerous, and the grass is laid as if by the feet of elephants. The Matebele army has left traces of its passage this way within a few days. Waited some time in vain for the wagons, when, returning to the war-path in the evening, I found one wagon stuck against a tree. Two oxen lost last night were recovered this morning. Therm. at sunset 70°.

11th March.—Start early; cross the turfy plain, lose the path. In fear of tsetse, as Reader says he lost some oxen by sending them down to a valley east, to drink; which valley we can see from here. There are two salt-pans, or two rivulets or vleys, having a saline incrustation, bearing about 30° east of north from this, where game of all kinds go to lick, even elephants: it used consequently to be a great

resort of hunters to waylay game. The road from Daka bears on the average about one point east of south. After crossing the hill, we descended for about three and a half miles through sand, with kushè trees, seringas, and wild vines with ripe grapes—two kinds of the latter.

Water boils at a vley on the edge of the forest at $206\frac{2}{10}°$, therm. 74°. Found here a small black tree-frog, painted with vermilion in blotches and spots. The odour of the large black ants comes new and strongly to one's olfactory organs, since they seem not to exist below the ridge to the north.

12*th March*.—This vley proves swampy, and the mosquitoes plague us. Road in part through grassy flat, the grass very high, with proteus and heath-like shrubs; afterwards through sandy forests of kushè and motsebe, to a large vley, from which numerous lotus-flowers reared their delicate heads, very pale blue, sepals five, petals indefinite, stamens ditto, and yellow, pointed with the same delicate blue, six inches in diameter, leaves very large, cordate, pale bright green. Here the grass was twelve feet high, and each joint three feet. I found a field of pumpkins growing wild, and secured about a dozen, each twenty pounds in weight; also a few small water-melons. The belts of sandy forest here run in parallel lines, like petrified waves. Ripe grapes hang in clusters from the trees, around which the vine climbs. There are two kinds, one a very deep purple, nearly black and round; the second a pale red oblong grape, so dense on the bunch as to squeeze each other out of shape. They have both a tolerable flavour of the real grape, but the oblong is the best. The skin is thick, imparting a roughness and irritation to the tongue. The branches die away every winter, and from the tuber springs forth the new foliage after the rains. I have had them growing in Cape Town, but they did not bear fruit. The afternoon's trek brought us to a vley

in a valley running east. Several Damaras have again slunk away behind, so that I am now left with only one man to drive cattle and sheep. There are now twenty-two souls behind; some sick, and others left to take care of them.

The valley east of the road which we followed next day is studded with very large mopani trees, some attaining ten or twelve feet in circumference. Grape vines cluster everywhere, with three descriptions of a kind of bulbous flower, called at the Cape, Africanders; the first, red; second, yellow, spotted all over with red; the third is plain yellow. A lily of the same family as the tiger-lily, but not spotted, which hides its blushing face from the sun, also abounds. Marigolds and bachelors'-buttons make the fields perfectly yellow in places; the wagon-road, in particular, which is now what we consider dead, being overgrown with grass, is in some parts only traceable by following the golden serpentine field of bachelors'-buttons. Occasionally we come across trees which have been broken by the almost irresistible strength of the wild elephant; trunks of even three feet in diameter being sometimes snapped in two.

In the afternoon, when about to inspan, it was found that the unmounted arm of the axle was cracked, and very much bent. It is doubtful whether we shall get more than a mile or two farther with it, but we will go while it lasts, or until we see a dry locality and wood to make a new one. Water boils, $206\frac{1}{10}°$; therm. 80°.

Sunday, 14th March.—Obliged to travel. Make about $3\frac{1}{2}$ miles to the baobab, passing through the same kind of alternate sandy forest and mopani fields, with adjacent uncleared bush and sickle-thorn. The wagons make slow progress, owing, in part, to the incurable indolence and apathy of our followers. We advance, however, at the rate of seven or eight miles a day, which is as much as we care about

doing, as it will give the sick time to come up. Owing, probably, to the inroad of the Matabele, there are no signs of human life, in consequence of which the fruits of the field are abundant. We are impeded at every step by the creeping moramas. The root of this plant, which is edible, resembles a yam, but is more juicy, and somewhat stringy. The beans, two in a pod, are the size of a halfpenny-piece, enclosed in a hard brown shell; tastes like cocoa-nibs when roasted; we substitute it for coffee. The beans are called tamani; flower yellow, cruciform. There is a profusion of vegetation: convolvuli of every gradation of colour—white, yellow, pink, and lilac (none variegated), entwining with the yellow-blossomed hybiscus with a prickly down, combine to oppose our progress. Toda is the Bushman name for another grass, of which the seeds are eaten as grain. It is the best resemblance to real grain of all the three kinds that I know. A berry, which the Bushmen call chumkow, of a combined sweet and acid taste, and of which elephants are very fond, grows on these sandy billows. In this country the mice seem to have the same instinct they have in Damara Land, that of nibbling grasses off at the base to get at the seeds; only here the grass is from six to twelve feet high. From under the stems of the sickle-thorn a reddish-brown ant, half an inch long, rolls out the soil in circular terraces, which he excavates when he makes his home. This insect, called gamstèko by the Bushmen, is a great nuisance and torment to the lion, whom it compels to leave its prey as soon as it has been secured.

A few giraffe spoors were seen to-day, as well as qualata, koodoo, and quagga. Yesterday April trod on a snake which lay basking in our path. According to the Bushmen, pythons attain a very great size in this desert. From these accounts they must sometimes be not less than thirty feet in length, for here they are described as swallowing a young

giraffe, or a koodoo, while in other parts the pallah or the steinbuck forms their prey. I have heard this so frequently corroborated that I firmly believe it. They say that the bellow of the koodoo, enveloped in its muscular coils, often leads them to the detection of both. Those who have seen the reptile and the quadruped contending together describe a fearful picture of muscular power on the one side, with impotent and unavailing struggles on the other. They tell me the python seizes its prey by the hind legs first, as they say, tying them together, then the body, leaving the head and neck quite free. They seem to believe in the reptile having two stings (lumas—Sechuana for needle) in the fundament, with which it actually kills; and that while it is crushing the animal behind, it faces the victim, darting its forked tongue into its nostrils, and precipitating its death. They crush their prey into the shape of a flaccid bag of meat, and cover it with saliva before swallowing it.

We rested during the next few days at a long and deep vley, to cut wood for a new axle, and also to give time for our sick Damaras, who had been left in the rear, to join us. Baines and I both suffered from slight attacks of fever. Our halting-place does not seem to be a healthy spot, although the thermometer shows high. The vegetation is very rank, and the dew heavy. Large mopani trees abound, from which we are, morning and evening, regularly entertained with the cackling of pheasants, the loud whistling of owlets, the clamour of jays and creepers, and frog-like notes of the toucans, with the fainter and more harmonious tones of the lesser tribes. The partridge's loud call is the first and last sound of the day. The mother toucans, now broken forth with their broods of young ones, are no more indulged by the male birds, but have to provide themselves and their offspring with food. I have lately seen as many as forty of these birds in one flock. They have a slow, undulating

flight of very short stages; on a flat they may be caught by tiring them out. The female bird is very fat during her enforced confinement to the nest.

20th March.—The missing Damaras arrived, all well, with the exception of two families, who had not been found by the men sent in search. Baines finished the axle, and next day I started ahead in search of water. Still alternate mopani groves and sandy forests, succeeded, after upwards of 12 miles, by kushè forest and sand-hills. My search proved fruitless, and I had a most fatiguing walk of 16 miles without a drink, nor could grapes satisfy thirst or dispel weakness. I saw two wild boars. I left two more families, with a supply of corn, to wait for and help those that are behind. I noticed here a very small brown ant, which emerges from a hole an inch broad. On looking into this entrance I perceived a rounded cavity, from which rises in the centre a conical column, a small aperture on the summit of which is the true gateway to the abode of the insect. The empty space between the column and sides of the cavity I cannot find the use of. It is constantly filling with sand, which the little busy creatures are as eager to expel, and carry out four or five inches all round, forming a circular terrace, on the brink of which they are constantly rolling the yellow sand.

My sufferings from fever and headache, aggravated by a severe cold, caught from getting wet through with dew, still continue. On the 23rd I shot a female koodoo, very red, front legs white from above, knees with only a streak of warm or raw sienna on the outside and back of fetlock, hind legs white inside altogether. This is the difference between the desert and mountain koodoo, these being much warmer coloured all over, and the mountain koodoo more blue.

On reaching a vley, which I recognised as my hunting-ground from Chenamba in former years, I fell in with a troop of

about twenty giraffes, white as ghosts—a sign that they are fat. I had a shot at 500 yards, and wounded one severely. I sent April after it, but he failed to secure it.

I have been hunting about for the fruits known by the names of bododo and shesha, but have only found one of the latter. It was ripe and luscious. From some unknown cause these shrubs are not bearing this year: they grow only in or near valleys with subterranean water. On our farther trek from Thamafupa to Juruga I saw camel and elephant spoors, and also the trails of the war party. The wagon road goes south from here to Motlomoganyani, one road to the westward.

A small black-beetle, with a powerful odour, flies into the wagon at night. The road is so crossed with the silken web of large spiders that it is difficult work getting through them. I generally have April before me with a branch beating it down. Sam, who took his place on one occasion, is so short that he only half did the work, and I had constantly to hold my hands before my face. In spite of this precaution, my hat was coloured yellow, and my face frequently covered over as with a veil. The silk, when taken from the branch, is dirty, full of flies, beetles, butterflies, and locusts. I have even seen birds securely bound in these strong silken cords. It has a very unctuous feel, and to this property is due the spider's great success. I have got a small sample of clean silk also.

25*th March.*—Inspan at noon, walk ahead, find abundance of ripe grapes, of which I gathered a large hamper-full for Baines and Edward, and wait for the wagons. After six miles and a quarter, came to a vley, with some dirty water, full of water-beetles (*distichus?*), of which I made a good collection. Outspanned here, and left a large bag, containing about forty pounds of corn, in a tree for the sick Damaras. Next day, we passed Gumkabie at noon. Afte

leaving the valley we travelled about five miles through heavy sand and thick mohonono bush, seringa trees, and thorns; three miles more down the same valley of Gumkabie and Juruga, and reached a large vley on the north side of a sand-hill. Saw giraffes. Elephants and rhinoceroses are in the habit of drinking here.

The wild fruits are more abundant here, owing to the absence of man. The tlokeja dry on the bushes; the egoomi (mogooma of Sechuana); the bosho (ledoza of Sechuana); and morètloa berries, of which the elephants and Bushmen are very fond, are here in abundance. Passed some very magnificent motsebe trees; a bauhinia, with a saffron-grey bark, with black, rusty-looking blotches, dark, glossy, green leaflets, with midrib and veins white; margin simple. The fruit, in green, clustering pods, tinted with carmine, in bursting discloses scarlet beans (with black eyes), the size of a shilling. The dry skins of the beans are eaten, and are highly prized by all the natives, but the bean itself is very hard and horny. I have had some roasted as an experiment, and find it a good substitute for coffee.

Butterflies are plentiful, and amongst the variety of insects here nothing is more interesting than the great variety of caddis-worms and their various dwellings, and the surveying caterpillars standing on the points of their tails, or bolt upright, and swaying their body aloft, like the trunk of an elephant. The Damara women are collecting a small bulb they call ondomboro, to sell to the Hottentots, who powder themselves with it under the arms, &c., as Europeans do babies with violet powder; but the Hottentots do it for the purpose of destroying the odour exuded by the glands under their arms and other members, which is so offensive when they perspire or get excited. To me the remedy seems as bad as the evil.

The mogonono (or mohonono) leaves are covered with a

disease in the shape of small red tubercles, which, however, give it quite a brilliant aspect.

27th March.—Found that April had yesterday lost my pocket-book, containing all my notes on the geography of the country since November last, besides measurements and descriptions of animals and birds, of trees and plants, bearings, &c., &c. Stay over to-day to look for it, but the search was in vain. Make a skaarm, which Baines occupies. It rained from midnight till daylight; no sleep, and all wet in the wagon. Pocket-book not found. Water boils at 206$\frac{5}{10}$°, therm. at 78°. The grass abundant, and everything that grows here at perfection, grapes included, particularly around the vley, which being a large one is much frequented by game, whose manure fertilizes the earth exceedingly. From our present halting-place, Garuga bears south, Metsi Botluko 260 W., Tkuakams, 260 or 250 W., Shua south by east. Travel next day down the camel-thorn valleys. Open road and many vleys, rank, sweet grass, and pretty trees with birds'-nests. Having ascertained that this valley leads to Metsi Botluko, and judging, from the nature of the country and bearings, that it will be a better and shorter road, I prefer taking it rather than go round by Motlomogonyani, which is a very heavy road. We made only 6½ miles, owing to the several stoppages, and sleep without water.

29th March.—Trek to the vley water Tkuakams. Learn from an old Bushman whom we found there that people are fast dying of fever, which has been very bad this year.

The vley where we outspanned is on the border of a bushy plain called Chuda, on the margin of a valley called Am, which comes west from Zoutharra, and goes about south-east into the Shua. We hear that there is a fine spring half-way between this and Zoutharra direct, but we have no guides, and our drivers are, besides, too lazy to make any efforts either on our or their own behalf. The incurable indolence

of a Damara driver, of whom Jem may be taken as a type, must be seen in order to be appreciated.

There is a ground-spider in this country which is fatally poisonous. It is large, brown, and hairy; no other spider that I can hear of shares its venomous qualities, although there are some bearing a very hideous appearance.

The desert here consists of a succession of sandy zones or bults, as the Dutch call them, of whitish sand, running parallel to each other in a direction nearly east and west. These bults are covered generally in the highest parts by large forest trees, such as the kushè, motsebe, the mokala, and others; the former growing in regular forests, and often interlaced with briars and dense underwood, the favourite retreats of the elephant and giraffe at noon. Next to these bults run parallel compact forests of mohonono bush, which, by their thorough leaflessness have a most dismal aspect in winter, as it is of a pale ashy-grey colour. Occasionally a green-crowned acacia (*A. giraffe*) towers above at intervals, and these are invariably chosen by the elephants as a shade at mid-day, and their footprints are visible in such places for months after. The forests are also interspersed with briars of sickle-thorn. The mohonono bush grows generally to an average height of from ten to twelve feet. Its dense growth, and yet more the fact of its branches spreading nearly from the ground, render it a great impediment in hunting on horseback. The bush grows also in sandy plains, not quite so loose or so elevated as the bults. Between these two kinds of forest, or beside them, are found sometimes large flats dotted with small patches of young mopani, mozoana, or morètloa, and interspersed with grass; these are called bonteveldt or eland flats, being the general resort of those animals, though the giraffes, at this season, frequent them very much for the sake of the berries, which they may be seen patiently picking, with their heads and long necks

bowed to the earth. These plains are of a firm consistency —a dark subsoil, resembling pot-clay, sprinkled over with white sand.

Vleys, or natural reservoirs of rain-water, are to be found throughout all these tracts, the largest and deepest generally occurring in the depressions in the mohonono forests, or beside the higher bults. The vleys are generally surrounded by sombre-looking acacias (*A. giraffe*) with three or four large motchuerie trees, at high-water mark. From each vley there radiate paths, large and small, made by the game, and leading in every direction to the various grazing grounds, or to the nearest adjacent supply of water. Through every such tract of country there are one or more paths, which, though not travelled for a whole season by man, are readily distinguished by the natives from any game path. In the sides of some of the bults, or sometimes on the summit, are found spots where water may be obtained by digging. These spots are known to the Bushmen only, and yield abundance of water after a good rainy season; but sometimes the water recedes deep into the earth, and the Bushmen then suck water from the damp sand several feet below the earth, by means of a tube of reed buried in it, having a sponge-like tuft of grass inserted at the end; these water-yielding localities are indicated by the green colour of the grass in the dryest season, and are always in the most loose and white sand.

The desert yields fruits for the use of man in greater abundance than might at first be supposed, but they require collecting and husbanding for times of scarcity. Berries of several kinds are to be found, edible roots, bulbs, luscious fruits, such as shesa and bododo, beans, such as manchonoha, &c. During the greater part of the year it is overrun by thousands of elephants, giraffes, rhinoceroses, elands, and other animals, who stay in it until driven away by the drying-

up of the waters: but no sooner do the clouds begin to gather than they turn their faces thither again, lingering on its borders until the rain falls on its loose and thirsty sands, when they enter triumphantly, and, dispersing in every direction, soon fill it with life, revelling in the sweet luxuriant vegetation. The thunder now rolls through the sky, and the flood that pours upon the ground during six months is usually more than enough to compensate for the short period it has really suffered from absolute drought, since vleys often still contain rain-water in August and September.

31*st March*.—Arrived at the pit called Ndèchè, 10 miles from Metsi Botluko, to which point our yesterday's trek of 11 miles had brought us. Weather dull and cloudy, the thermometer being 80° before sunrise. We found at the pit the spoors of from 150 to 200 Makalalas, who had evidently fled from Moselikatze, but had been detained here by fever.* They had left behind them a young girl, with life still in her. Such a practice is common enough amongst Bechuanas, but I did not think the Makalakas had been so heartless; perhaps, however, their departure was urgent in this case. Bechuanas frequently leave their parents who have become a burden to them to die in their huts, while they only remove a few miles, giving them a dish of corn and a calabash of water, when they think they have done all that duty requires.

Wednesday, 1*st April*.—Made a trek of about 5½ miles, skirting the mopani bush on the left; passed several vleys with water. The country is now quite green and blooming. April was so fortunate as to fall in with his friends, and he suddenly became very stupid about the road ahead, and in the evening he leaves us altogether. None of the Bushmen

* The disease devastating the country, and which I all along took to be fever, turned out to be small-pox—a thing hitherto hardly known to the people of this country.

here came to see us, as they were still weeping over two of their small community, who had died to-day of the prevailing disease. I have suffered severely from fever during several days past, and at times am hardly conscious of what is passing around. I am, however, compelled to act as guide now that April has left us.

3rd April.—Good Friday, which we stay over. Two Damaras went out in the night and must have lost themselves, for they have not returned. The berries of the mogoma and morètloa are ripe now, and the branches are weighted down by the abundance of the former. They are sweet but hard, being nearly all stone, with a little fibrous skin, in and under which lies a very small quantity of saccharine and glutinous albuminized matter. The Damaras swallow them whole, as they do even the large indigestible berries, as big as marbles, of the "wait-a-bit." I had some soup made of them yesterday, in the way that I have seen the Bushmen practise, *i.e.*, by pounding them, and pouring cold water in, and then stirring the mixture. In eating it is desirable to retain the husks and seeds in the mouth as much as possible. This drink is pleasant and sweet; it contains a good deal of spirit, and soon ferments, but inclines to acidity. A good syrup can be made out of it.

Mutu-maabye, for which I now sought, proved to be about a mile off to the westward. The mopani forest contains a number of little pits of water in limestone. These pits are in circular indentations, 100 yards or more across, surrounded by tall trees, and a dark cypress-looking acacia without thorns. On the outside of the forest, to the south, the large hills of the termites are *white;* in the mopani forests, which here are suggestive of planted parks, strewn with coarse flat fragments of limestone, they are *black*, taking their respective colours from the soil. From Metsi Botluko westward, all the country is limestone, as far as near the Botletlie.

We trek hence to Tsagoobye, under the guidance of a Bushman chief, whose village we stumbled on when we had lost the road. He tells me that fever has swept the country clean, but that to the north it has not been so bad. The game are now all on the pans to the south; and the giraffes, too, are on the plains eating the mogoana berries, of which they are very fond. I met here Cassè, an old Bushman guide of mine in 1852. He confirmed the tidings as to the extensive mortality which had occurred, passing his hand across his mouth and blowing against it, by way of indicating a clean sweep. I now noticed, for the first time, one of the young Bushmen to be pockmarked; it struck me at once that small-pox must be here, and that it in reality was the disease which I had mistaken from their imperfect description for fever. I remembered at once John's telling me that Mr. Hartley had forty cases of a like nature (none of which, however, proved fatal), in his camp on the road. We thus find ourselves in the midst of small-pox! Cassè is very graphic in his account of the ravages of this terrible disease, "there are no people left, only stones." He says, also, "the cold wind is cutting off the summer from the winter."

CHAPTER XII.

Mirage—Native Salt—Reach the Botletlie River—Ford at Samaganga's—Makato's Village—Boat Voyage on the Botletlie—Changes in the Ngami Basin—At Lechulatèbe's Town—The Author's Brother arrives at the Lake—His Disasters—Projects for the Future—Proceed from the Lake to Otjimbengue.

SUNDAY, 5TH APRIL, 1863.—Anxious to get out of the reach of the infected district as quickly as possible, lest any of our few remaining Damaras should take the disease, we continue to move forward, following as nearly as possible the line of route taken on the outward journey. We were obliged to dispense in great measure with the aid of guides, as it was difficult to obtain the services of any of the Bushmen for the purpose; indeed it appeared that most of those whom I had formerly known in this part of the country had fallen victims to the dreaded small-pox. We passed Odeakoè and Kowgnarra. From the latter trekked onward through the dreary plains where we had so much experience of mirage. The same phenomenon is present, though it is now a month earlier in the season than when we before passed this way.

Lakes seem to dance over the saline plains of the Karroo, receding as we approach, and the smallest specks of water are magnified to wonderful dimensions. Man and beasts appear like tall black giants at a great distance, and large baobabs seem suspended like castles in the air, or as though springing up from an aërial lake; troops of game, partially concealed by the rising vapours, seem dashing out of a lake; gnus seem to be running over the clouds, their legs invisible in the mist.

Things are distorted into every imaginable form and shape. The thirsty dogs run after the delusion in the vain hope of quenching their thirst, but the salt dust they imbibe only adds to their suffering, and blinds them. The illusions of mirage are inconceivable to those who have never witnessed the phenomenon. I remember once, at N'chokotsa, having all our horses saddled to give chase to a troop of giraffes apparently passing within a mile or two of us, and which turned out to be zebras, or springboks. On another occasion, Vilgoen, myself, and others, gave chase for five miles on the Ntwetwe to a few balls of rhinoceros dung, taking them to be rhinoceroses themselves!

It became necessary, as our supply of corn got low, to employ our guns. I shot four gnus on the 10th, but it was a work of some difficulty, with the few sickly hands now at our disposal, to get the meat brought in. The Damaras were in great glee at the quantity of milk they obtained from the large udders of the gnus. If cattle had been scarce in South Africa, no doubt gnus would have been domesticated ere this.

12*th April*.—The thermometer during the past week has averaged in the early morning, 62°; mid-day, 91° to 98°; sunset, 87° to 90°. Water boils about 206$\frac{9}{10}$°. This morning the temperature at sunrise was as low as 43°; max. 84°; sunset, 74°. We sent and got some beautiful salt. The salt here is formed in beautiful snow-white flakes of fine crystals, but it leaves a strong taste of carbonate of soda in the mouth. The salt of the Shua river is three inches thick, of a pinkish colour, and more compact, with coarser crystals. The boys were back at 10 o'clock with heavy loads from the south-west. All the pools of water that we found here last year in May are this year already dry in April, so that it is probable we shall have to go all the way to the river without water.

On the 16th we prepared for a start, but did not get away until the afternoon. The Damaras, with their usual improvidence and apathy, have left large portions of the meat unsalted, until it is lying about in a putrid condition. Our Bushman guide was only going to take us a few miles north by west, to a pit called Gwangow, where we should strike the wagon spoors and proceed west. But he offered to take us straight through west to a pan of water called Nwango (which lies west from here) if we would give him time to hide away his meat from the vultures, so that his wife can accompany him. He says he cannot think of leaving her alone, as lions are prowling round every night, and the natives assert that lions and all other beasts of prey are more daring when the men are away, which they soon smell out. I agreed to his proposition.

The sick people have not made their appearance, though we have now been eight days delayed here. It is the opinion of the Damaras here that they will not come soon, as there is too much food in the veldt, and they urge me to push on. A change in the shape of meat would, however, be very beneficial to them just now. Yet it is perhaps better that they come on at their own pace, as urging them to keep up with the wagon, which sometimes travels 18 miles a day, would probably do them more harm than good. We are all suffering more or less from weakness, accompanied in some cases with fever. In my own case, a painful eruption of the skin, accompanied by an irritation (like the pricking of needles) which commenced on the forehead and thence passed downward by the neck and over the whole body, has probably diverted externally some of the worst symptoms of the complaint. The various acid fruits, which I have used plentifully, have perhaps aided in bringing out whatever fever may have been in the system. I have used a decoction of baobab-pulp with advantage on a former like occasion.

Saturday, 18*th*.—On the 18th, we make for our old road, leaving Dwarf Palm vley to the north. We have thus, with yesterday's trek, made a saving of about 12 miles on our former course. In the evening, trek about 10 miles to the edge of the bush, about six miles from the Botletlie river, which we reached next day. Spoor of game plentiful. From this height in the early morning one can see over an extent of plain to the distance of 40 miles, the Karroo pans looming like lakes in the distance. It is quite a pleasure to see the fine stream of clear water, margined with reeds, Egyptian papyrus, and fields of emerald green. The banks are enlivened with groups of warm-coloured leechees, and innumerable lotus blossoms float like stars on the bosom of the stream. The lotus seed and root seems to be the chief food of the Makobas just now, as fish is scarce. This lotus is not the same as is found in the ponds or vleys lately described. The roots are larger, and not inclosed in a shell as the others are. The natives hook them up with an iron hook attached to a long stick. In some parts I have seen the women diving for them at the risk of losing their lives by crocodiles. The steep white cliffs, with overhanging foliage and dense patriarchal trees, spreading their huge branches over jungles and impenetrable forests of lesser growth, stretch away in the distance.

The river is now rising: it is two or three feet deeper than when we were here last year, so that it is doubtful whether we shall be able to get the wagons through. I hear nothing of my brother's being at the lake yet, though he ought to have been there in November or December, if the Hottentots had not opposed him. As we are now reduced to a short allowance of millet (about 1 lb. between five men per diem), I encourage the Bushmen to bring berries and wild coffee. The berries are pounded with a little water, to separate the pulp from the seeds, after which boiling water is poured on

till it has the consistency of paste. It has a flavour somewhat like dried apricots, but the seeds are rather an objection.

Our progress along the Botletlie was slow, in part owing to the density of the bush. The wagon road was in places overgrown with rank grass and thorns, and we seldom made more than six miles in one trek. The motseara, sweet gum, and hack-doorn, replaced the desert trees. The river, though not yet in flood, was two or three feet deeper, and the water clearer, than when we were here before. By the 29th April we had advanced as far as Samaganga's village, the last four miles before reaching which lay through a dense jungle. No elephants or other animals were drinking at the river at the present season: they were all lower down the stream. We fell in with some buffaloes, and I shot a koodoo. The goats and sheep of the Makobas are in good condition: I saw one day a wether that would have taken a prize at any display of stock—either for bulk of body or tail. The people at the various villages on the route have got splendid crops, which they are busy in gathering in. At one of these (Talies) we found the usual trophies of heads and tails of slain animals —amongst them, skulls and horns of gnus, with tails of elephants, rhinoceroses, giraffes, buffalo horns, hoofs of quaggas, &c.

On the 30th, by the aid of Samaganga, who sent a dozen men for the purpose, we forded the river opposite to his village, it being necessary first to cut a road down to the bank for the wagons. I had both wheels locked, and we slid down at an angle of 45 degrees, and then the water almost immediately came almost half way up the sides of the wagon, so that the oxen had to swim for 100 yards or more. Except the steep descent on the north bank it is a very tolerable ford, and the natives at once christened it Chapman's Ford. The greater part is stony ground, excepting near the banks,

where the native corn-fields are overflowed for 200 yards. The whole breadth just now is nearly half-a-mile. John brought the second wagon and the cattle over next day.

The people here have small flocks of goats of their own. They plant corn, pumpkins, and water-melons, but depend chiefly on the products of their pitfalls and the seine, with, in times of scarcity, the lotus root and flower, tsietla (root and flower), or bulrush, and the soft roots of the papyrus, the inside of which they chew for the sweetish juice. They eat as much as would serve four labouring Europeans. They have already cleared and hoed ground for their next crop, and this time, high up in the bush, where they have cut down all the branches of the large trees and piled them in high heaps with the grass and weeds, which they have burnt. This will lie fallow until the rains fall in November or December. They judge by the height of the water now what it will be when the flood comes down, and plant accordingly.

Samaganga refuses to take me to Lechulatèbe's Town, as the chief will not allow Makobas, or even Baroas, to approach from any village infected with small-pox, and I am obliged to give up the point at present. Samaganga has not had the small-pox now, but his people brought it from the Tamalukan. He had it, he says, when a youngster, and that it has been here three times within the memory of man. He is about forty-five years old. Three cases of death, to his knowledge, have occurred at the town. The chief has the infected persons sent away, even his own relations, one of whom died shortly after. They say the small-pox always comes from the *south*.

We got away from Samaganga's on May 2nd, travelling through a valley running parallel with the river, amidst a great exuberance of rank grass. The rich soil in the valley is of an ashy-grey colour, full of vleys and tall ant-hills. The pasture everywhere on the banks of the river is unequalled

for cattle, goats, and African sheep, but too bushy and thorny, and too full of burrs, for wooled sheep. I saw one of the flat-crowned mokala trees overthrown. The diameter of its crown about fifty feet, and as flat as a planked floor all over the top. The bark of the root is esteemed the best tan in the country. I shot one of a herd of buffaloes with which we fell in—a large cow, with a white face.*

On Monday (May 4th), we started early for Makhato's village, which we found that the small-pox had not yet reached. We heard from Makhato of the dread inspired at Lechulatèbe's Town from fear of our being the means of introducing that disease, as well as of our bringing lung-sickness; also of the death of Lechulatèbe's wife—the daughter of Sechelli. There was a report of a great fight between Sekomi's people and the Matabele, in which the latter had been defeated with great slaughter. Sekomi had sent Lechulatèbe the following piece of advice: "Buy guns, buy horses; do not let a gun go back from your town if you have a tusk to buy it with."

Makhato's people supplied me with corn, and the chief promised us guides to-morrow, to take us through the bush,

* There are some white buffaloes at Daka. I only heard of it too late, or would have spared no pains to secure one. White quaggas I have seen on two or three occasions, and they are said to be common. In the case of the buffalo here referred to, the horns grow from the top of the head downwards, sweeping outwards and backwards over the ears, then turning upwards. The tips turn still more backwards. The base of the horns was covered with hide and scattered hairs, and, not like the male, horny to the base. The smaller kind of buffalo has a division of two or three inches between the horns in the forehead, while the larger has nothing, the horns meeting at the base; the limbs more robust than those of an ox. On asking Makhato about the white-faced buffalo, and about albinoes generally, he said, buffaloes that are quite white all over, at other times the face and tail only, were sometimes entrapped. He said he lately caught a young bull white all over, and that generally it is only young buffaloes they observe to be white. White quaggas, he says, are frequently trapped, without any indication of a stripe.

as the river is too full to travel on the banks. This promise, however, was not fulfilled, and we proceeded without them, my own knowledge of the route enabling me to supply the absence of any professed guide. The luxuriant growth of grass had, however, in parts obliterated all traces of a track. On our way we met parties of Bushmen and Makobas returning homeward, after having been assisting in gathering in the harvest, which had been more than usually abundant in these parts. Food was in consequence so plentiful that the wild animals were left almost undisturbed, elephants and buffaloes, it was said, roaming all day in the immediate neighbourhood of Lechulatèbe's Town. There was everywhere great dread of the small-pox. On the 7th we reached our old standing camp of last year. I was anxious to introduce inoculation amongst Lechulatèbe's people, as a means of saving them, and begged old Motseara, the chieftain at this place, to let me have a boat with which to go on at once to the town, leaving the wagons to follow. He professed alarm, however, at my going forward without previous announcement, and I accordingly waited till the next day.

The winds during the past month have been either west or south—the latter exceedingly cold. The vegetation is everywhere luxuriant, and the animals seem to revel in it. The birds, in particular, are seen in countless numbers and of endless varieties. We see some (jibbaroos?) as large as adjutants, with long red beaks turned upward at the extremity, the plumage black and white. Also three kinds of demoiselle cranes, and a large and magnificent hawk, with black breast and throat. It is dark sepia grey above, snow white underneath, with black spots. Hundreds of grouse and pheasants, with their young broods, run before us, and hawks are all day snapping them up, while mice and lizards, coming out to bask, are so plentiful that these rapacious birds have no want of food. Wherever the water has pushed over the

banks, and formed little swamps and pools, we see hundreds of ducks and geese of several kinds, also the large yellow-billed duck, with glossy green wings, and the large whistling ducks, of which descriptions will be found (*see* Appendix) amongst my list of birds.

Next morning, which was bitter cold, with again a southerly wind, I started early, cooped up in a middling-sized ill-shapen canoe, with a Makoba and two little sons with him, one to paddle and the other for company. We poled, or paddled, or drifted with the stream, as chance offered, frequently having to tear our way through the dense reeds which shut up our path. For a mile or two the river would be quite free and open, and often so shallow that we had to put back and return by another channel, or get out and drag the boat, so that I somewhat repented that I had not rather undertaken the journey on foot. At times we forced our way through large and picturesque basins, under perpendicular white cliffs, crowned with gigantic overhanging trees, while the green slopes on the opposite side were clothed with a carpet of emerald, on which cattle and goats were browsing. The water in these little lakes was almost entirely hidden under the profusion of immense lotus leaves, which lay on its surface, and were buoyant enough to support the weight of stilt-legs, snipes, and other aquatics, running about in quest of their food. These leaves, large and oblong, are slit at one end as far as the stalk, and though as thin as a sheet of paper, receive their buoyancy from the fact of their outer edges drying and curling up to the sun, so that they float like large dishes on the water; excepting when the wind sometimes lifts one up, causing it to flap like the wings of a bird. Thousands of pretty lotus flowers enliven the scene, while they emit an odour grateful and invigorating to the senses. We passed over some beds of hard sandstone, worn full of round cavities. At times I fancied we were about to bump up

against a brown, coral-like reef, which, however, yielded before us and proved to be a peculiar aquatic plant. We started some lovely little kingfishers, with plumage of most ethereal hues, and I shot a brace of white storks. I got pretty well tired of the boat, and occasionally took a walk on the banks, leaving the boat to pursue its course. At the villages we successively passed I preached inoculation, and the people seem to appreciate it, saying that they would be delighted if the chief would take my advice and have all the tribe inoculated, as in that case they might all sit down together, and let the storm come and blow over, instead of shattering the tribe's power by dispersing them throughout the country. I was received everywhere with the most friendly demonstrations, the ladies not failing, after a string of the most endearing epithets, such as "sweetheart," "son of my father," "child of my mother," "friend of the Baroas," "mate of the chief," to ask what I had brought them, to give them beads, &c. By-and-by we came to a large mokuchoñ tree shading a large circle on the north bank, and I knew another hour would land us at the town. Just here there are many shallows, so that in many parts a wagon can easily cross. There are scarcely any reeds on the banks, and large plains exist which were covered with water and reeds even so lately as twenty or thirty years ago.

We passed through some broken reed-fences, or fishing kraals, spanned across the river, called Letòta. At one spot, where the stream seems to run at about 1½ miles per hour, it was about fifty yards broad, with an average depth of about two feet of water.

I have referred elsewhere to the mistake under which both Livingstone and Andersson laboured in supposing the Botletlie to be an outlet of the Ngami lake. About thirty years ago, or more, this was indeed the case, when the lake extended over,

perhaps, nearly twice the area it occupies now. Ever since that time it has had two confluences, but no outlet. The waters of the Dzo, dividing, help to supply the lake, but send the largest quantity of water eastward through Chapo's lagoon, or reed marsh (the size of which has been under-estimated), into the large Salt Lake. When the Botletlie river is very low, the whole of the water coming from the Dzo into the Tamalukan and Botletlie first flows westward for some distance, until it has filled up for a certain distance the deep channel leading lakewards, and not till this is filled up will it have scope to run freely to the eastward: the residue then going westward into the lake. Neither the river nor the lake now ever attains its former fullness. The position of the large mochuerie trees on its banks will point out the original water-mark. These trees always grow on the water's edge, and, now that the river is receding so far, many die off every year. Andersson is also mistaken in supposing the ebb and flow of the lake, which he noticed, to be caused by the moon's attraction. How far such a small body of fresh water can be influenced by the attraction of the moon I am not aware, but the phenomenon is merely caused by the prevailing wind at that particular season (easterly in the morning) driving the water over the very low beach on the opposite shore (as far sometimes as half a mile), when it is said "to go out and feed," and then receding when the wind subsides in the evening. The same phenomenon extends even to the river opposite the town (which is two miles east of the junction), rendering the water-mark of the morning and that of the evening very different. While on the subject of the lake, I may as well state that "*ngami*" is derived from *n'ghabè* (the Sejeje term for giraffe), from *n'ghabba*, to rock—the rocking motion of the giraffe being assimilated to the rocking of the waves, which in former times, they assert, were large and powerful enough in a storm to throw the hippopotamus on the shore.

On landing opposite the town, I was followed into it by a long file of women bearing heavy loads of corn, which they were bringing from their gardens, and hundreds more could be seen in other directions converging to the same point. Lechulatèbe received me with apparent cordiality, and we were soon engaged in our usual style of bantering conversation. He made some apologies for not having come or sent to me, to which I rejoined that he was always very friendly and polite when I was coming from home, and he knew that I had plenty of good things to eat and drink; but now, knowing that I had neither that nor trading goods, he did not consider it worth while troubling himself about me. He was very much pleased to hear that I had come to teach them about the medicine for the small-pox, and I was hailed from all sides as a true friend of the Baroas and of the chief; but when he found that it was to be inoculation, the tables were completely turned, and I was heartily laughed at for my pains, not alone by him, but all his tribe, who take their cue from their chief, and must laugh or scowl, praise or abuse, anything and everything which his majesty pleases to applaud or condemn. I gave the matter up as a bad job. I learned from the chief the death of his wife, also that their sheep, goats, and dogs had all died of *n'terra mani* (lung-sickness). The epidemic amongst dogs and sheep has, as far as I can ascertain, extended all over South Africa as far as the Zambesi, and perhaps beyond; and it is worthy of remark that everywhere the epidemic breaks out at the same time. Many people have also died here of dysentery, and some of fever.

I also heard from the chief of the retribution that had overtaken Gert in his unlawful career. It will be remembered that this rascal stole my horses, the loss of which has been so severely felt by us all. He had been caught by Amraal's people, who were going to put him to death, but

the missionaries interceded for him, and so, after receiving a certain number of lashes with the shambok, he was put "on the roads," in which position he had no difficulty in finding his way back to Riet Fontein, and then assumed the rights and privileges of a chief over the Bushmen. But his arbitrary and despotic sway soon rendered him unpopular with his subjects, and, after a brief period of success in the rapacious career which he at once commenced to indulge in, he was betrayed by some of his followers. Being handed over to the vengeance of a party of Barolongs from Kuruman, whose horses he had swept off, he and two of his confederates were killed with sticks. Thus died Gert!

The season had been so favourable that in a day or two we procured several hundred pounds' weight of corn. We also obtained by barter (to the progress of which the usual impediments which meanness, duplicity, and rapacity combined, always suggest to a savage were continually interposed) upwards of 1000 lbs. weight of ivory.

My brother arrived from Walvisch Bay, and brought us plenty of good things and plenty of bad news. He too, poor fellow, had his troubles. After parting from us, his first mishap was to lose some valuable oxen by the Makoba pitfalls. Then his wagon broke down, becoming a mere wreck in the wilderness, while a hungry lion attacked his caravan, and, springing upon his oxen in the yoke while they were travelling along the road, killed two on the spot. The same ferocious brute followed him to Tlabala, where it killed another ox: he laid to the carcase at night, and put a final stop to the lion's career by shooting it. The lions had just then killed twelve horses belonging to another party. Breaking no less than five axles, one after another, on his way from the lake, he had reached Sekomi's in a nearly starving condition, his goats having been all devoured by wolves. At

Sekomi's he had been most hospitably received by the missionaries of the London Society.

In every other respect, the news brought by my brother was most unwelcome, and to me personally most distressing, on more accounts than one. Many deaths had occurred during my long absence of friends and acquaintances dearly esteemed, and other great changes had taken place amongst the living of our little colonial world.

My brother brought the supplies of chemicals, clothing, and provisions, for which I had asked, but few or no letters. While in the midst of our sanguine anticipations, I had ordered all letters to be sent on by sea to the mouth of the Zambesi, and we had now the gratification of hearing that there were "lots of letters lying there for us."

My brother had, besides, brought the tar, nails, &c., which we had required for our boat-building, and Baines and I seriously discussed the project of an immediate return to the Zambesi. Baines was certain now, with the assistance of one man, of being able to finish one boat at least. For a few days we had no other idea but that of immediate return to the river, but we found we had reckoned without our host. Not one of the Damaras would for a moment consent to return; and it would have been cruelty to compel them. My brother had not a man to spare, and if he had, I could plainly see that the accounts given by our people of their disasters and sufferings in the country to the eastward would have the effect of making all desert us here, if pressed to go on a similar excursion. It was evident they entertained the greatest dread of the country we had left behind, and that we must have a new batch of men altogether, if our purpose were to be carried out. Baines could, no doubt, easily have finished the one boat, which, indeed, was nearly half completed already; but even then, he and I would have had to undertake the voyage by ourselves in the worst season of the year,

through many strange tribes, speaking strange languages, perhaps to be again prostrated by fever. Considerations of such a nature forced on our minds the reluctant conviction that it would be folly—indeed, little short of madness—to renew the attempt with our present means. For such a purpose there should be at least five or six white men in the party, so that one or two of the number might be fairly reckoned on as being able to attend to the wants of the rest. There seemed, in fact, nothing for it but my former plan of getting four to six volunteers from the Cape, or fishermen from Walvisch Bay. I therefore determined on running down to Objimbengue in Damara Land, a distance of 700 miles, as well to attend to business matters of my own as to treat with some friends in Cape Town to obtain for me a party of five or six men on the most favourable terms, with the full intention to return from there as soon as it can be possibly managed, and prosecute to its final issue the scheme upon which my heart was set.

CHAPTER XIII.

From Otjimbengue to Walvisch Bay—Geological Observations—Air-plants—Wilson's Fountains—Limit of Sea-Fog—Hykamgoub—Return to the Interior—At Objimbengue again—Residence at the Schwagoup—Remove into the Hottentot Country—Interview with Jan Jonker—Proceed again to the Bay—The Kaan Valley—Native Politics—Engagement between Damaras and Africaners—Start again for the Interior—Final Determination to leave the Country—Voyage to Cape Town.

FEARING naturally that I should have some difficulty in getting away from Otjimbengue, if I paid off my Damaras before getting to the end of the journey, and not feeling inclined to lose the only hold I had upon them, I promised to pay them when they had assisted me to the Bay. They became overbearingly insolent, exasperating me to the highest degree, and at length refused to let my cattle out of the kraal, while from one to two hundred stood guard there with spears and knobkerries. In fact, Andersson's premises were covered with armed men from morning till night. To avoid the necessity of resorting to violence, perhaps terminating in bloodshed, I yielded to the advice of my friend Andersson, offering to pay them the half on the spot, provided the chief would be responsible for their accompanying me to my journey's end. This arrangement was concluded accordingly, and, in the full confidence that the chief would abide by his promise, I subsequently went even so far as to pay them in full, to the utmost amount of their expectations. No sooner was this done than every one of them disappeared, and Andersson had to lend me some of his own servants to enable me to get down to the Bay.

My immediate object was to establish my camp somewhere out of the reach of the Hottentots, where I might persevere in a strict neutrality with respect to the subject which is now convulsing the country—the dispute between the Damaras and Hottentots.

On Saturday, 22nd of August, 1863, I left Otjimbengue for Walvisch Bay, whence I wished to forward my correspondence to Cape Town. I regretted much that I had not my camera and chemicals with me, for the granite hills and formations between Otjimbengue and Tsoubis—those immense spherical boulders, with scarce a fissure in them, cropping out here and there between the schist, which is tilted up on edge, and the conical piles of granite rock, with sometimes large inverted pinnacles of many thousand tons in weight, poised high above the plain—presented tempting subjects for the photographer's art. In some places three or four huge blocks have settled into the form of a bridge, through the arch of which the clear blue sky is visible beyond.

I reached Wilson's Fountain next day, the mountains on either side increasing in magnitude, and exhibiting the same characteristics—granite, sometimes red, sometimes grey, with parallel veins of white quartz running at intervals through it. At times the hills have smooth and solid peaks of granite, without a crack, and destitute of verdure; where the rock is in process of rapid decomposition, as is often the case, the hills are covered with the poisonous euphorbia, and other kinds of milk-bushes. One of these, with a large tuberous root, seems to be an air-plant; though similar in appearance to several milk-bushes, it does not, however, yield milk. Its large tuberous root, a few hundred pounds in weight, looks very like the block of granite on which it grows, so closely resembling it, indeed, as to be easily mistaken for part of the

rock itself. It seems to derive its chief nourishment from the air, since I have known several of which the roots have been turned up some years ago to be still flourishing. At most, a small taproot alone penetrates some crack or fissure. I secured here four or five different kinds, evidently allied to one another, only one of which, however, has milk. I procured, also, a few specimens of the gouty-looking plant called motiudi. This plant at first springs up like a large tuber, of a pinkish-yellow, or bronze colour. It is a trefoil, with large oblong pointed leaves, with strongly decorated margin, each leaflet being more than twelve inches long, thick, and pulpy. The wood is very soft, brittle, and asteriated. When full grown it attains the height of ten or twelve feet, and has the appearance of a miniature baobab.

Tree aloes (kooker-booms), and many other productions of a sterile soil, and saline or soda plants—from the lees of which soap is made—are the products of these parts. The water, also, is brackish.

Wilson's Fountain indicates, I think, the farthest point to which the influence of the sea fog extends. From here coastwise very little rain ever falls. Last year was an exception. All the country, from the coast to Lake Ngami, and beyond, seems to have been inundated. The oldest inhabitants never experienced such rains; huts and hamlets, together with their inhabitants, were swept away, and many of the cattle shared their fate. The Kuisip has this year also flowed right into the sea, clearing away the sand-hills which obstructed its path, and fresh water is now to be found by digging within a few yards of the beach.

From Wilson's Fountain made a trek of about nine miles, during which we saw several zebras. This is not the small black zebra, such as are found in the colony, but a larger, duller, heavier animal, with a good deal of yellow ochre about it, especially the stripes of the face. I am inclined to

think that two different zebras, or *Equus montanus*, have never been described.* Springboks, in small groups, were scattered about the plains, as if the lions had been amongst them during the night, otherwise they would have been in more compact bodies.

Five and a half miles more brought us, on the 25th, to Onanie's Mouth, the junction of the Schwagoup river. The next stage was "the Reeds," about seven miles, whence, fearing attacks of lions if we stay during the night, we proceed by moonlight to Davikop, about seven or eight miles farther. From here we travelled the whole afternoon from 3 o'clock, and the whole succeeding night, only stopping twice to make coffee, and reached Hykamgoub. Here we received the usual hospitable welcome from the Rev. Mr. and Mrs. Eckardt and their household.

I stayed at Hykamgoub about a month, during which I completed, as well as my repeated attacks of fever would permit, my correspondence, while my young friend Barry wrote out a clean copy of my journal. As there seemed no likelihood of my recovery in the fogs so prevalent at this season near the coast, I determined, by the advice of my friends, to remove into the interior, to some point about half way towards Otjimbengue. Having first taken my friend Barry to the Bay and seen him off, I returned to Hykamgoub, in company with Mrs. Latham, Mr. and Mrs. Bassingthwaite, Smit, and Hicks.

Before leaving Hykamgoub a very large snake was brought me. It had been found in a Damara hut, within a few feet of Mr. Eckardt's house, and in the Damara's bed. Mr. Eckardt tells me that the python is also an inhabitant of these parts, and that he has very recently seen the trail of one.

It was near the close of September that we journeyed on,

* See my descriptions of animals.

passing Oesip and the Red Mountain, and enjoying an exciting chase after giraffes by the way, in the direction of Otjimbengue, whither I accompanied my friends. Arrived at Otjimbengue, which we reached on October 14, we found the people there in a great state of bustle and confusion. Men, women, and children were running hither and thither. On inquiry I learnt that "the Hottentots were coming!" Five Damaras had arrived from Smit's cattle-post, and said they had left the Hottentots there, still fighting, and that they had killed several Damaras, and driven off all the cattle. Having not a single bullet, and finding that nobody else had, I set to work to make some, merely in order to set a good example, for I did not believe in these reports, which have become too common. In the evening, news was brought of its being a false alarm.

In the course of the ensuing fortnight I removed to Wilson's old place in the Schwagoup river, where my cattle were grazing. I made a pit for the cattle, and one for ourselves, with a garden, &c., and collected material for building a house, in the hopes of yet being able to make peace between the hostile tribes, and bring my wife and family to settle in this country, with a view to prosecute for a few more years my researches in natural history, &c.

The site at the "shambles," as the spot was called, was a lovely one for a dwelling, surrounded by a park of most gigantic and graceful anna trees. Over these trees, at the back of my residence, peeps out a large smooth mass of granite mountain, towering a thousand feet above the plain; and on the southern or opposite side is another reddish-looking mountain, sparsely covered with green grass and bush. In this hill copper has been found. To the westward the hills are crossed with wavy streaks of quartz through soft grey granite. The werft was overrun with dry burr-grasses, the seeds of which, together with a wild vegetable, or spinach,

called omboa, constitutes an article of food of the Damaras. Dark and heavy clusters of a creeping or parasitical plant hang gracefully around the thick stems of the anna trees. To the north there are open, undulating, bush-dotted plains, extending for several miles, and terminated by sharp-angled, serrated hills in the distant north and west. Pheasants run cackling about on my homestead by hundreds, destroying my garden, and guinea-fowls and korhaans are heard. The zebra, the koodoo, the ostrich, and other tenants of the wilds, are to be found on the station. The grazing and the water is good and abundant, and nothing is wanting but peace in the country to make this, and a thousand other equally pleasant spots, a delightful place of residence.

Continual rumours of immediate attack by the Hottentots, however, forbid anything like repose. We are kept in a state of constant alarm, and all exercise of peaceful industry was rendered impossible. This state of suspense, which paralysed all useful effort, was succeeded, after some weeks, by a lull, and it was understood that an accommodation had been come to on the part of the respective leaders, and that the strife between the Damaras and Hottentots was virtually at an end. Encouraged by these reports, and finding it impossible to exist in Damara Land, I resolved upon removing my property into the Hottentot country, and as the Damaras were again gaining courage and moving up to Wilson's and Bessingthwaite's places, near the Hottentots, I succeeded in getting a few to accompany me to the matchless copper-mines near Jonker's place,—where they knew there was abundance of food, and a prospect of trade with the Hottentots. Accordingly, I packed up my things and started, on December 6th, for Otjimbengue; a thousand Damaras met me on the road, and their *moro! moro!* (good morning) was always accompanied with *tutu lako* (give me tobacco).

The country eastward was green and flourishing, the valley

of the Kaan teeming with guinea-fowl, of which I shot a great number. I reached Rimhoogte on the evening of the 8th, and, with some delays consequent on the necessity of waiting for my cattle to come up, arrived a few days later at my destination. I found the houses at the mines in a terribly tumble-down condition. But as Mr. Andersson, who had a claim to the buildings, had given me permission to occupy any of them if I felt disposed to run the risk of doing so, I set to work at renovating the best of them, and made a garden while waiting the arrival of Jan Jonker, to whom I had notified my presence there. On the 17th, I received a visit from the chief, who was accompanied by his uncle, old Jan Jonker, with an interpreter and one or two attendants. Jan Jonker himself looked very much improved since I had last seen him: he was smartly dressed, had grown stouter and more manly in figure, and exhibited, in the questions he put to me, a degree of shrewdness and general intelligence which I little expected to find in the debauched youth of bygone years. He evidently sought to extract from me all the information at my disposal; and I could not but admire the assumed air of indifference with which he asked the most important questions. We had much conversation on the disturbed state of the country, and the disputed points between the Damara and Hottentot nations. He denied the alleged grievances of the former people, and resented warmly the interference of English traders in native affairs.

Jan Jonker and his party left me next morning, the chief promising that he would send to warn the Topnaars not to molest my property, intimating at the same time that they were not his subjects, but a perfectly independent people, over whom he had no direct control. I wished to give him a letter, to be forwarded to Amraal's to meet my brother, who is expected from the lake; but he declines taking charge of it, there being at present no communication with that tribe,

owing to the small-pox, which, he says, is making dreadful ravages.

Having now made all the arrangements I thought necessary to ensure the safety of my people, whom I left in charge of my servant, James Harrison, I left, on the 19th, for the Bay, in order to meet my wife, who was determined in future to be my travelling companion. Passing a day at Mr. Bessingthwaite's house (where a pot of honey-beer,* or methlegen, the favourite beverage of the Hottentots, was hospitably brewed in my honour) on the way, and descending by Rimhoogte into the valley of the Kaan river, I reached Otjimbengue in time to spend the Christmas there.

The Kaan, which the road frequently crosses, is a very turbulent mountain torrent; it is one of the largest branches of the Schwagoup river above Otjimbengue, and pours occasionally a large body of water into that river, but, owing to the quick drainage, never offers a long-continued impediment to wagon travelling. When, however, its turbid waves come rolling down with thundering roar after the rains, the traveller has only to wait patiently until its fury is spent.

The Kaan valley offers many a scene of striking interest to the lover of Nature and the pencil of the artist. One of the most striking features in the surrounding scenery is found in the uniform parallel stratifications of schist projecting some distance from the earth, and all bearing in one direction;

* A pint of honey to a gallon of water is fermented by a kind of balm, called moer. This mixture is made by pounding two kinds of berries, and preparing it with the larvæ of bees. By putting an ounce or two of this moer into the pot it is brewed in about eight hours, when the moer or sediment settles to the bottom, and the brew is poured off. The honey being now fermented, a vinous and acid taste is imparted to the brew, not unlike hock, though not quite so potent. The Hottentots are more easily excited by this drink than by a moderate allowance of spirits, but they stimulate its effects by smoking. On those, however, who are accustomed to the real juice of the grape it has little or no effect, unless taken in very large quantities.

the intervals are covered with a mixture of last year's crop of dry grass, blending with the incipient crop of this. An occasional white-stemmed, gouty-looking motiudi tree, with its large, pointed, oval, pulpy leaves, strongly serrated, and tall aloes, cacti, and euphorbias are seen. The round and sometimes broken and cliffy hills, dotted with verdant sweet-gums, their bases often washed by the flood, offer pictures which it is pleasant to behold, surrounded, as they often are, with pretty forests of blooming, sweet-scented mimosa, from whose black stems the silvery gum is trickling, while their bright blossoms perfume the morning air. The blue jay, with heavy wing, hovers mockingly overhead, vociferating in concert with gay-painted but screeching paroquets and discordant guinea-fowls, whose notes are further augmented by the whir—r—r of pheasants and partridges, which rise on every side, while insects of green and gold buzz and boom amongst the foliage.

The least interesting part of this valley is clothed with dabby (*Tamarisk*), a few pretty ebony trees, aged and wide-spreading mokalas and anna-booms. Here graceful koodoos are still found browsing, and the rock-buck perches on the highest pinnacles, and the equally agile mountain zebra (the small black one of the Cape), wary as a cat, barely shows his head over the mountains, ere, tossing his mane and rearing back, he suddenly flings out his heels and plunges forward in mad gallop. The steinboks keep on the lower plains, and baboons are found in large gangs grubbing for bulbs (*lunchies*) and the roots of the purple-blossomed sorrel, which is also abundant, and is a nourishing and wholesome vegetable to man as well. Through such a landscape it is an interesting sight to watch the red wheels of the white-tilted wagons dragging heavily after the sturdy team of parti-coloured oxen, often stumbling and kneeling over the sharp flints; now rolling with the roar of distant thunder down the

rocky steps of the mountains, with difficulty maintaining its equilibrium; now grating down the quartzy slope with the drag on, the oxen dragging sometimes on their haunches; anon grinding over the pebbly bed of the stream, on emerging from which the sore-footed cattle more firmly tread the soft, red, sandy road, cut through a carpet of emerald, until they bury themselves out of sight in the blooming groves, while the mountains re-echo with the driver's harsh voice and the crack of his huge whip.

We halted during the day at a spot where Isaak, a half-witted Hottentot lad by whom I was attended, noticed a plant of the cactus or euphorbia tribe, known by the name of elephant's trunk. Isaak plucked several of the younger shoots of the plants, and, rubbing off the prickles with a stone, set me the example of eating some. Notwithstanding that I knew the plant to be freely eaten by the Namaquas, I thought, on tasting the first mouthful, that Isaak was bent upon poisoning me, and made some horrible wry faces. Isaak, however, devoured several pounds of the nauseous plant.

1*st January*, 1864.—Having spent Christmas at Otjimbengue, I proceeded on my way to the Bay. I had good sport, shooting a great many fine and fat pauws, springboks, steinboks, hares, &c. I had advanced as far as Oesip, when two Damaras overtook me with a letter from Mrs. Latham (from near Otjimbengue), informing me that the Topnaars had swept off all Wilson's cattle, had killed several Damaras, and that a Mr. Cane had nearly lost his life in a personal conflict with some drunken or lawless Hottentots on their werft at Windhoek—intelligence which occasioned me no little uneasiness and anxiety. Pushing on direct for the Bay, I was delighted next morning at beholding from the signal-hill at Sand Fountain a vessel lying at anchor. I was, however, disappointed in the hope of meeting my wife. It

proved to be the brig "Emma," on board of which was Mr. Hahn, who had brought with him a party of missionaries and colonists, or industrial agents, a wooden building for the bay, merchandize, material, and supplies of food, &c., for a long period in advance.

The arrival, on February 1st, of Mr. Hutchinson from the interior put us in possession of later news from Otjimbengue. There it was current that Wilson's cattle had been swept off, as well as Bessingthwaite's and Smit's, by the Topnaars. They had also shot some Damaras, men and women. My place they had not molested. Jan Jonker and his tribe are very much incensed at these proceedings of the Topnaars, and have already recovered most of Wilson's cattle. They have sent messengers to express their indignation at these proceedings, and to say that they will not suffer a neutral white man to be put to loss or inconvenience, if even they have to make a subscription amongst themselves to pay the damage.

On the 10th the barque "Good Hope" arrived in the Bay, bringing, besides other passengers, my wife and two eldest boys, to whom, after an absence of three years and three months, I was reunited.

After a detention of several weeks, waiting the arrival of a wagon which was to convey us into the interior, at least as far as Otjimbengue, I received, on the 27th of March, a letter from Mr. Andersson, containing the information that Mr. Green, at the head of 1500 Damaras, had gained a victory over the Africaners, destroyed twenty-two wagons, taken about 4000 cattle and 6000 sheep, and upwards of a ton of powder; but it appears that he had already experienced no end of trouble with his Damaras, and had to shoot about a dozen for disobedience, thefts, &c. By the same opportunity my brother writes me, from the immediate neighbourhood of the seat of war, that

he has not a single servant, and about 200 head of cattle, and double that number of sheep and goats to look after; that their lives have been placed in jeopardy by the pains taken by the Damaras to circulate a statement that all the white men were in league against the Africaners, but that hitherto they have received nothing but friendly behaviour from the Africaners (Hottentots), who do not seem to feel their reverse, excepting in so far that amongst the few of their slain was the chief's wife and daughter. My brother writes that they were not in full force when attacked, and that, though defeated, they have not left the spot, but visited him the next day, and even followed up their enemies during the night.

On the 30th, we were visited by a large deputation of Topnaars from Rovibank, or Sheppmansdorp. My wife and children, who had never set eyes on such hideous objects before, now opened them very wide indeed. They were led hither by inquisitiveness, wishing to know something about the war, and we know, or strongly suspect, them to be in league with those who have made themselves deservedly obnoxious to us. Next day my brother reached the Bay from Aaries, where he has left all his cattle, &c. It is to be hoped that the Topnaars will not run off with them, for they are a people who acknowledge no other law than that of might, and whose character is a combination of fraud, perfidy, and cruelty.

It is time, however, to bring this narrative to a close. My stay in the country was prolonged until the ensuing September—the intervening period being one of continual and harassing excitement and exertion, owing to the hostile relationships which prevailed between the native races, and which led to constant scenes of bloodshed and violence. The record of these transactions, however important to the colonist of South Africa, would, I fear, possess little interest for the

general reader, and the already overgrown limits of my volumes forbid my descanting on them. In so far as I was personally concerned, I sought to observe a strict neutrality between the rival parties of Damaras and Hottentots. It would have been well had all the white men who were residents in the country pursued a like course; but allowance must be made for the natural enlistment of sympathies on one side or other of those amongst whom the life of a settler in such a region has been passed, and with some or other of whom his feelings, not less than his interests, may be mixed up. I have referred to one bloody engagement between the hostile tribes; a second great battle was fought a few months later—at the end of June. On this latter occasion, Mr. Andersson, who (with Mr. Green) had taken a leading part on behalf of the Damaras, and had even entertained the project of placing himself at the head of the Damara nation, received a serious wound, his leg being shattered.

The unsafe condition of the country had caused me to send my wife and family back to the colony in the early part of May. I returned for a time to the interior, by the usual route, in order to arrange my personal affairs. The silence of the country as I passed through it was painfully depressing. People were afraid to venture abroad, and the Damaras had flocked into Otjimbengue as their head-quarters. Many of the Europeans had already left for the colony, and the missionaries, with their families, were in some cases exposed to dangers which it is painful to think of. After the later of the two engagements to which I have referred, my own position was at times a most precarious one. I had removed my station to Wilson's old place on the Schwagoup river, in order to maintain the neutrality on which I had determined; but parties of Damaras were frequently prowling about, attacks from the Hottentots were daily anticipated, and I was obliged to send armed men to accompany the cattle

WALVISCH BAY, WITH THE SAND-HILLS IN THE DISTANCE.

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when they went to graze. It was useless to struggle against such a state of things. All hopes of the re-establishment of peace, and the restoration of confidence, seemed vain; and at length, finding that I could do no good, either for the people or myself, I resolved on abandoning the scene—at least for a time. On the 7th of September, turning my back upon "Anna-wood Park," I again took my course towards the Bay. Next morning, while outspanned for breakfast near Wilson's Fountain, where we killed a sheep, I was fortunately enabled to gratify my favourite pursuit by making a contribution to natural history. I observed the shadow of a large bird swooping over the wagon. Seizing my gun, I got out in time to send a very long shot after him, and brought him down at about 200 yards. It was a magnificent, large, dark brown vulture, the expanse of whose wings was ten feet from tip to tip. It is said, by the natives, to feed the Bushmen and Berg-Damaras, who watch its motions, and constantly rob it of its garbage, which generally consists of the leavings of the lion. It is also the constant attendant upon lions, always seeking them out every morning while eating their prey, when they patiently perch on the nearest tree and await his departure. The fat is considered a very excellent ointment in all cases of rheumatism, &c. Its name in the Berg-Damara is thoutkap.

On reaching the Bay (Saturday, 17th September), the cry, "Sail, ho!" appeared quite a stirring event, and, straining our eyes, we soon discovered, through the fog, an approaching vessel. By her I received letters from the Cape, urging my immediate return, and, accordingly, I took my passage for Cape Town. But three days' experience of the "Benjamin Millar" proved enough, and when we touched Sandwich Haven I was glad (at the cost of forfeiting my passage-money) to shift my quarters into the "Flower of Yarrow," a smart, but dirty, schooner, engaged in the fish and guano

trade. At Sandwich Haven I paid a visit to the fishing establishments, three in number, which were in active employment. During the brief voyage thence to the Cape, my chief amusement consisted in catching and skinning birds, with a view to add to the contents of the Cape Town Museum—an occupation which, I was sorry to find, met with disapproval on the part of the seamen and the second mate (a Dane), whose superstitious fears ascribed every calm or contrary wind to my unhallowed influences. A few days of fair wind, however, soon brought us within sight of Table Mountain, which loomed grandly before us, high above the thick fog, and I was only too thankful to land at midnight, again to enjoy the sweets of domestic life, after four years of wandering.

APPENDIX.

APPENDIX.

DESCRIPTIVE NOTES OF ANIMALS OF INTER-TROPICAL SOUTH AFRICA.

THE PIED ANTELOPE.

BONTE BOK OF THE CAPE COLONISTS.

(*Gazella pygarga.*)

(From HARRIS.)

Rather larger than the *Gazella albifrons*. Head long, narrow, and shapeless, with a very broad muzzle. Horns 15 inches long, black, divergent, erect, very robust at base, with ten or twelve incomplete annuli broken in the middle, and striated between. Forehead and face white, as in the Blesbok. Ears long and reddish. Sides of the head, neck, and flanks deep purple-brown. Back, bluish-lilac, as if glazed. Legs perfectly white from the knees and hocks downwards. Belly and inside of thighs white, and a large white patch on the croup. Tail reaching to the hocks, white above, with a tuft of posteriorly-directed black hairs. Small detached lachrymary perforation. Linear nostrils. Very indistinct muzzle.

Female precisely similar, but on a slighter scale, with more slender horns. Mammæ, two.

Gregarious. Still found in Zoetendal's Vley, near Cape L'Agulhas. Common in the interior.

THE WHITE-FACED ANTELOPE.

THE BLESBOK OF THE CAPE COLONISTS.

NUNNI OF THE BECHUANA.

(*Gazella albifrons.*)

(From HARRIS.)

Adult male, 3 ft. 8 in. high at the shoulder, and 6 ft. 3 in. in extreme length. Head long and narrow. Muzzle broad. Horns from 12 to 15 inches in length, white, very robust at the base; divergent, with ten or twelve semi-annuli on the anterior side. A patch of chocolate-coloured hair at the base of the horns, divided by a narrow white streak, which suddenly

widens between the eyes to the whole breadth of the face, down which it passes to the nose. Ears rather long and white. Sides of the head and neck deep purple chocolate. The back and shoulders hoary bluish-white, as if glazed. Flanks and loins brown. Belly white. Legs brown outside, white within. Croup and chest rufous. Tail reaching to the hocks; 17 inches long, with much posteriorly-directed brown and white hair. Linear nostrils. Very indistinct muzzle. Small circular lachrymary perforation.

Female precisely similar, but slighter, less vividly coloured, and with more slender horns. Mammæ, two.

Very gregarious. Inhabits the plains south of the Vaal river in immense herds.

THE GRYSBOK.

(*Tragulus melanotis.*)

(From HARRIS.)

Adult male from 20 to 22 inches high at the shoulder, and about 36 inches in length. Head very broad and short. Snout obtusely pointed. Horns about 3½ inches long; smooth, round, slender, and vertical, or slightly inclining forwards. Ears round, open, and broad. Colour deep chocolate red, intermixed with numerous single white hairs; beneath rufous. A black horseshoe on the forehead. Detached suborbital sinus and small muzzle.

Female similar, but hornless. Mammæ, two.

Monogamous, or solitary. Common in the colony among the wooded tracts along the sea coast.

THE SLATE-COLOURED ANTELOPE.

BLAAU BOK OR KLEINEBOK.

(*Cephalopus cærula.*)

(From HARRIS.)

Adult male about 15 inches high and 28 inches long. Head very long and pointed, with a spacious muzzle, resembling a rat's both in shape and expression. A bare spot round the eyes. Ears short and round like a rat's. Horns black, conical, reclined, slightly turned inwards and forwards; 2 inches in length, closely and strongly annulated. General colour dull brownish-buff, or mouse colour, above, beneath whitish. Legs and rump rufous. Tail 2 inches long, dark above, white beneath. No suborbital sinus, but a suborbital sack lower down, marked by a lengthened streak upon the cheek.

Female similar, but hornless and more diminutive.

Solitary. Inhabits the forests along the sea coast.

THE BUSH BUCK.

BOSCH BOK OF THE CAPE COLONISTS.
(*Tragelaphus sylvatica.*)
(From HARRIS.)

Adult male, about 2 ft. 8 in. high, and 5 ft. 2 in. long. Form elegant, somewhat receding from the typical structure of true antelopes, and assuming that of the goat. Horns about 12 inches long, erect, spiral, and sublyrate; marked with an obsolete ridge in front, and one in rear; black, and closely wrinkled at the base; points, a little bent forward. General colour, brilliant chestnut, black above, marked with a narrow white streak along the spine; two white spots on each cheek, several on the flanks, and two on each fetlock; inside of thighs and chin white; forehead deep sienna; a broad, naked, black band encircling the neck, as if worn off by a collar. Tail 9 inches long, brown above, white beneath. Ears large and round. Moist, naked muzzle. No lachrymary opening.

Female similar, but without horns. Mammæ, four.

Monogamous, or solitary. Inhabits the forests on the sea coasts.

THE RHEE BUCK.

RHEE BOK OF THE CAPE COLONISTS.
(*Redunca capreolus.*)
(From HARRIS.)

Adult male, 2 ft. 5 in. at the shoulder, and about 5 feet in length. Body very slender. Neck long. Head small; and ears pointed. Horns about 9 inches in length, straight, slender, vertical, and pointed, with from ten to fifteen rings at the base. Hair very soft and villous, resembling wool. General colour, whitish grey, with a cast of buff; beneath white. Tail about 5 inches, grey, tipped with white. Muzzle naked and moist. Suborbital low down, but distinct.

Female similar, but smaller, without horns. Mammæ, four.

Found within the colony in small troops amongst hills and rocks.

THE NAGOR.

ROOGE RHE BOK OF THE COLONISTS.
(*Redunca lalandii.*)
(From HARRIS.)

Adult male 2 ft. 8 in. high at the shoulder, and 5 feet in length. Horns about 6 inches long, approximating at base, sub-erect, nearly parallel, and hooked forward at the point, with five or six semi-annuli striated between. Legs, head, and neck, tawny. Chin and lower parts white. Body fulvous brown, with a cast of purple. The hair long, loose, and whirling in various

directions. Tail 10 inches, grey, with long white hair along the edges. Muzzle small. Suborbital opening barely perceptible.

Female similar, but hornless. Mammæ, four.

Found amongst rocks in small troops.

THE KLIPSPRINGER.

(*Oreotragus saltatrix.*)

(From HARRIS.)

Adult male about 22 inches high at the shoulder, and square and robust. Head short and broad. Horns about 4 inches long; round, distant, vertical, but slightly inclined forwards, obscurely wrinkled at the base, and annulated in the middle. Legs robust. Pasterns very rigid. Each hoof subdivided into two segments, and jagged at the edges so as to give it the power of adhering to the steep sides of smooth rocks. Fur very thick and long; hard, brittle, and spirally twisted; ashy at base, brown in the middle, yellow at the tips, forming an agreeable olive. Suborbital sinus conspicuous. Muzzle pointed and small.

Female hornless, in other respects resembling the male. Mammæ, two.

Common in the colony. Inhabits rocks and precipices in pairs.

THE OUREBI.

SUBOKOO OF THE MATABELE.

(*Redunca scoparia.*)

(From HARRIS.)

Less than 2 feet high at the shoulder, and about 4 in extreme length. Very slight horns, 4 or 5 inches long; black, round, and nearly vertical; wrinkled at the base, with four or five annuli in the middle. A white arch above the eyes. Tail short and black. General colour pale tawny; beneath white; long white hair under the throat, fulvous tufts below the knees. A small muzzle. Lachrymal opening well developed.

Female similar, but smaller and hornless. Mammæ, four.

Found in grassy plains, usually in pairs.

THE REIT BUCK.

REIT BOK OF THE CAPE COLONISTS.

INGHALLA OF THE MATABELE.

(*Redunca eleotragus.*)

(From HARRIS.)

Adult male about 2 ft. 10 in. high at the shoulder, and 4 ft. 10 in. long. Horns 10 or 12 inches long, advanced beyond the plane of the face;

divergent, and regularly curved, with the points forward; wrinkled at the base, and annulated with obsolete rings in the middle. Ears, 6 inches. Tail, 10 inches long. General colour of the coat ashy-grey, tinged with ochre, beneath white; hair of the throat, white and flowing. A small muzzle, and imperfect suborbital opening.

Female similar, but smaller and hornless. Mammæ, four.

Gregarious in small families, or solitary. Resides variously, principally amongst reeds.

THE DUIKER.

IMPOON OF THE MATABELE.

(*Cephalopus mergens.*)

(From HARRIS.)

Adult male about 2 feet high at the shoulders, and 3 ft. 8 in. in extreme length. Limbs solid. Horns 4 inches long, approximated, somewhat reclining, bending outwards, with a longitudinal ridge on the front traversing the wrinkles of the base. Forehead covered with a patch of long bright fulvous hair. A dark streak on the chaffron. Three dark striæ inside each ear. A dark streak down the front of the legs, terminating in a black fetlock, as if booted. Colour various; usually cinereous olive above, and white beneath. Tail 8 inches long, black, tipped with white. Spurious hoofs, scarcely developed. A long sub-orbital slit down the side of the face, and a small naked muzzle.

Female similar, with very small horns completely concealed by long rufous hair. Mammæ, four.

Solitary, or monogamous. Common in the colony, especially along the coast, among bushes.

THE KHANAMETLA.

Extreme length, 3 ft. 9 in.; height at shoulder, 11 inches; length of head and body, without tail, 2 ft. 3 in. It has longish hairs, barred sepia-brown and white, like the quills of the porcupine, with a warmer colour near the points. Muzzle and throat dull white. Body covered with a dense light brown fur underneath the longer hairs. Tail thick, and of a warmer colour towards the extremity. Legs, deep sepia-brown.

It inhabits the reeds on margins of rivers, and, like the otter, which it somewhat resembles, feeds on fish, but is not averse to young birds, mice, insects, &c. It has an awkward heavy gait, and, though a small animal, defends itself, when excited, against the attacks of dogs with wonderful courage, often inflicting severe wounds, and uttering a peculiar sound like the rattling of a porcupine's quills.

THE TUANIA, OR RED CAT.

LYNX.

Extreme length, 3 ft. 9 in.; tail alone, 9½ inches. General colour light reddish-fawn, interspersed with some white points; white underneath from the muzzle, with pale reddish spots on the belly and legs. Thighs have very slight indications of pale and transverse bars. Ears grey, with brown at base, long and pointed, with a tuft of grey hairs an inch long. Corners of eyes white.

It inhabits the desert, and feeds on mice, birds, insects, &c. Its fur is warm and valuable.

THE SMALL OTTER.

Extreme length, 3 ft. 4 in.; tail alone, 13 inches, and thick. Height at shoulder, 9½ inches. A rich, deep brown, short fur, lighter and softer underneath. Throat and muzzle white and spotted. Inside of thighs spotted white. Legs covered with very short, smooth hair.

Aquatic, and feeds on fish, crabs, &c.

THE TA-LIE.

General colour on back dull yellow, imperfectly striped black or deep brown. Sides spotted. Belly white. Inside of thighs white, barred both inside and out with black. Smaller spots on the legs, which are dull yellow outside, inside white; but the black bars continue throughout. Muzzle and throat white, with small spots. Ears like those of a domestic cat.

Food, mice, birds, and insects.

THE MACHUANI, OR HONEY-EATING FOX.

General colour:—back, ashy-grey; belly, black or dark-brown.

THE TOOKUÈ.

About the size of a fox, but much stouter. General colour, body brindled.

LEOPARD.

(*Felis jubata.*)

Killed by the dogs at Koobie. Extreme length, 5 ft. 8 in. From the nose to the back of skull it measures 8 inches. From there to the in-

sertion of the tail, 2 ft. 9 in., and the tail itself 2 ft 3 in. It measures 2 ft. 3 in. at shoulder, and about the same at the rump. The girth around the fore part of the body was 1 ft. 10 in., and round the loins, 1 ft. 6 in. The body is long and slender, somewhat resembling a greyhound's, but the limbs still muscular and powerful. The paws massive, and the claws retractile. Colour a pale brownish-yellow, with annular dark-brown spots on the body, and disposed in rings around the legs. The tail is ringed alternately with black and white. The throat, belly, and inside of legs, white. The head is rather longish, and the forehead rounded.

ELEPHANT BULL.

Fore foot, circumference, 4 ft. 6 in.; hind foot, circumference, 4 ft. 5 in. Height, 11 ft. 7 in.; height, standing, 10 feet. Trunk, length from tusks, 6 ft. 2 in.; circumference of trunk, 5 feet; circumference of trunk at point, 1 ft. 4 in. Neck, circumference, 10 feet. Length from top of skull to insertion of tail, 11 ft. 6 in. Tail, length, 3 feet. Half girth, 8 ft. 9 in.; half girth, behind shoulders, 7 ft. 9 in.; half girth, before hind leg, 7 ft. 11 in. Tail, length without tuft, 4 feet. Tuft, length, 1 ft. 3 in.; length from insertion of tail to top of forehead, 9 ft. 11 in.; length from top of forehead to insertion of trunk, 3 feet. Trunk, length, 6 ft. 8 in. Ear, breadth, 3 ft. 9 in.; length, 5 ft. 3 in. Eyes, distance between, 3 ft. 6 in.; length of eye, 3 inches. Height, from centre of spine to fore foot, 11 ft. 6 in.; actual height at shoulders, 10 ft. 9 in.; height at middle of back, 12 feet; height, from spine to hind foot, 9 ft. 3 in.; actual height, 8 ft. 9 in. Tusk, projection beyond lip, 2 feet; girth of tusk, 1 foot. Fore foot, breadth, 1 ft. 6 in.; hind foot, breadth, 1 foot; hind foot, length, 2 feet. Extreme length, 20 ft. 10 in. Colour, iron-grey. Skin reticulated, and covered with a few small scattered hairs, eye-lashes; and hair on the lower lip, and at end of tail, where the number of stout hairs form a ridge of bristles.

THE GEMSBOK (Female).

Length, from base of horns to base of tail, 5 feet; length, from nose to horns, 1 ft. 3 in. Tail, length, 3 feet. Height at withers, 4 ft. 3 in.; height at rump, 4 ft. 3 in. Horns, length, 3 feet. Colour, light yellowish-brown, nearly grey; the bands of deeper brown, approaching to black. Hair upon the head contrasted with pure white, being the deepest in colour. A broad black patch begins at the base of the horns, narrowing to a mere stripe between the eyes, spread out again over the whole width of the nose, and terminating a couple of inches above the nostril, encircles the jaw just behind the angle of the mouth. Other stripes, descending from the eye, join those below each cheek, and unite in a dark band under the throat,

Another band, commencing on the dewlap, passes between the fore legs, and dividing them, spreads round the white of the belly to the flanks, passing round the outside of the thighs, and, I think, again inside them, above the hock. Tail black, but a small triangle of silvery-grey hairs on the under side, near the base. Mane upright, and of deeper red than the grey of the body, but not so black. A black stripe along the back, spreading partially over the croup, but does not seem so large as in the sketch by Mr. Wolf, in Andersson's book.

THE WHITE RHINOCEROS (Female).

Height at shoulders, 6 ft. 5 in.; height at hump, 6 ft. 9 in.; height from hip to hind foot, 6 ft. 7½ in. Half circumference, 6 ft. 3¾ in. Horn, length, 3 ft. 11½ in.; short horn, 7 inches. Fore foot, 3 feet; hind foot, 2 ft. 9½ in. Point of upper lip to between ears, 3 ft. 11 in. Ears, to insertion of tail, 2 ft. 2 in.

THE LECHÈ (Male).

Length from upper lip to back of horns, 1 ft. 1 in. Length to base of neck, 2 ft. 7 in. Length to base of tail, 6 ft. 5 in. Extreme length, 8 feet. Ears, length, 7 inches. Horns, length, 2 feet; horns, spread, 1 ft. 6 in. Neck, 2 ft. 6 in.; neck at base, 3 feet. Height, 3 ft. 8 in.; height behind, 4 ft. 3 in. General colour:—White spot round the eye, extending to the ears; chin, upper lip, throat, breast, and belly, and inside of legs and thighs white; front of legs, deep sienna-brown; hind legs ditto.

THE LECHÈ (Female).

Length, from point of lip to ears, 1 ft. 2½ in. Length to base of neck, 2 ft. 1½ in. Length to base of tail, 5 ft. 6 in.; length to point of tail, 6 ft. 9½ in. Withers, 3 ft. 3 in. Rump, 4 feet. Ears, 6 inches.

THE BUFFALO (Cow).

Extreme length, 11 ft. 1 in. Tail, length, 2 ft. 8 in. Height at shoulder, 5 ft. 8 in. Height at rump, 6 feet. Girth of body, 9 ft. 8 in. Largest girth of neck, 5 ft. 6 in.; smallest girth of neck, 3 ft. 4 in. Head, from back of horn to point of tip, 2 ft. 5 in. Ears, 1 ft. 2½ in. Head, length, 2 feet. Horns, length, including tip, 5 ft. 10 in.; horns, between tips, 2 ft. 5 in. Fore leg, smallest girth, 10 inches. Neck and breast, length of, to tip, 3 ft. 7½ in. Eye, 2 inches. Windpipe to tip, 1 ft. 9½ in.

THE STEENBOK.

HIGHKAMKAP.

Height at shoulders, 2 feet; height at hips, 2 ft. 5 in. Extreme length, 3 feet. Ears, broad and long, 6 inches. Head, small and tapering, 7 inches. Throat white; chin white; around eyes white; inside of thighs and legs (as far as knees and elbows) white; inside of ears white; eyes black; hoofs and horns black, the latter bent forward at tops. General colour:—Pale, red tipped, with white on back; back arched. Tail, short (scarce 2 inches long).

THE HARE (Male).

TSOUBÉS.

Height at shoulders, 9½ inches. Ears, 5¼ inches. Head, 4 inches. Tail, 3½ inches. Extreme length, 1 ft. 8½ in. General colour:—Dark ferruginous grey above; belly dirty white; upper part of tail black.

THE WHITE RHINOCEROS (Female).

KOBABA.

Dimensions:—Depth of upper lip, 8½ inches; length of long horn, 3 ft. 2 in.; length of short horn stump, 10 inches; length from nostril to eye, 1 ft. 2 in.; length from short horn to between ears, 1 ft. 8 in.; space between ears, 10 inches; length of ears, 1 ft. 2 in.; length between ears to base of tail, 8 ft. 6 in.; length of tail, 2 feet; extreme length from edge of upper lip to end of tail, 14 ft. 3 in.; height at withers, 6 feet; height at rump, 6 ft. 3 in.; actual height at rump, 5 ft. 7 in.; circumference of body at shoulder, 9 ft. 2 in.; circumference of centre of body, 12 ft. 4 in.; circumference at flank, 10 ft. 2 in.; circumference of hind foot, 2 ft. 9 in.; circumference of fore foot, 2 ft. 11 in.; circumference of head at eye, 5 feet; breadth between nostrils, 9 inches; length of nostrils, 5 inches; length of eye, 1¼ inches; girth of leg at pastern joint, 1 ft. 7 in.; girth of leg at knee, 2 ft. 1 in.; girth of leg below shoulder, 3 feet. Upper jaw, each six molars; lower jaw, each seven molars. The skin is indented with small wrinkles, crossing each other, and having lozenge-shaped spaces between. The anterior horn points forward at an angle of about 45° from a line drawn from the foremost angle of the eye to the posterior angle of the nostril. The circumference at base is 2 ft. 1½ in.; for about one foot up worn and fibrous; at one foot from the base, circumference 11¼ inches, and from which part, though nearly straight, it seems to have a slight curve backwards. At 2¼ inches from the base the posterior side seems to bend slowly forward. In front, from the same distance from the base, the point is sooner to an edge, owing probably to friction on the ground, &c. The second horn is in circumference at the base 1 ft. 7 in.; height, 10 inches;

and about 1 foot in circumference at the point, slightly curved backwards standing at an angle of 90° with the line before mentioned. In form it is a stump, roughened and worn, apparently with age. The colour of the animal is dull grey, and sometimes tinted with brown in parts where the moisture allows the true colour to be seen, as the nostrils, mouth, round the eyes, &c. The rest of the skin has a dry, whitish appearance, especially when the sides have been chafed by bushes. Three toes on each foot, the middle one larger than the others. Length of middle toe, 9 inches; breadth, 2½ inches; side toe, 6 inches long; breadth, 6 inches. Eyes black. Seven grinders in each upper jaw; 7 grinders in each lower jaw. No marked difference is perceptible in the conformation of these two heads. The angle between the two horns of Kobaba a little greater, owing to age, than that of Mohogu. In Kobaba the teeth transversely are a little narrower than those of Mohogu, making the row shorter by about three-quarters of an inch, and the two small molars in the upper jaw of Kobaba are absent, probably through age.

THE TSIEPA, OR STRIPED CAT.

Extreme length, 3 ft. 9½ in. Length of tail, 1 ft. 7 in. Height at shoulders, 10 inches. From tip of nose to insertion of tail, 2 ft. 2½ in. General colour:—Eyes, ground colour white, with a yellowish tinge overlying a grey down; one black stripe from above the shoulders down the centre of the back to insertion of the tail; three or more stripes on either side, commencing on the forehead, broken into irregular spots of dark-brown, overlaid with reddish-brown; these spots, decreasing in size, are continued over the legs and thighs. Ears, dull white. Muzzle white, sides of face black. Chin black, white spot under each eye. Face, pale yellowish-grey, with a dark stripe down the middle; long whiskers. Front of legs grey; back and inside, deep brownish-grey. Tail barred alternately with deep brown and white, with a warm tinge.

THE RIVER-TURTLE.

Dimensions:—Length, 10 inches; height, 3½ inches; breadth, 5½ inches. This turtle, which is found in the Botletlie river, has the peculiarity, that the front part of the shell of the belly is divided into two sections, the front one loose and moveable, and the hinder fixed. To the front part, which is more than one-third the length of the whole, is attached a strong cartilaginous substance, and it is moved by powerful muscles within, so as entirely to shut up the front part of the shell, enclosing and concealing its head, feet, &c. A finger inadvertently placed in this trap-door, when open, is liable to be cut to the bone, and not easily extricated. A powerful man could not open, nor make the slightest impression on it with an axe he had inserted, and which had been nipped by the reptile.

DESCRIPTIVE NOTES

OF SOME OF THE

BIRDS OF INTERTROPICAL SOUTH AFRICA.

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THE JAY, OR ROLLER (Male).

Dimensions:—Length, 16 inches; to toes, 9 inches; expanse of wings, 23 inches; the two outer tail features are 4½ inches longer than the inner ones. The female in colour is exactly similar, but rather less in measurement. Bill black, upper mandible slightly bent at the point. Legs light yellowish-olive. Lips yellow, or raw umber. Top of head very light warm green, passing into light sienna-brown on the back, the two colours being intermixed through their whole length. A white stripe, beginning at the bill, passes over and to the back of the eyes. Whiskers and beard white; under the eye a small patch of warm brown feathers directed backwards, and ending rather abruptly about three-quarters of an inch at the back of the eye, this changes into very delicate pale purple, or puce, on throat and breast. Ribs of white feathers on throat, forming a number of white lines. Upper wing coverts beautiful ultramarine, of medium depth, mixed with a warm brownish-green on the greater coverts. Three little feathers on the wings, beginning with white and tinted with cobalt, passing into ultramarine and black at the tips; the third being much darker. Quill feather shafts dark-brown, or black; upper half are in some nearly white, changing in different shades to a beautiful pale cobalt, or very delicate pale green. The points on the outer with rather deep ultramarine, and on inner with nearly black; their colours are reversed on the under side. Upper points and under coverts very pale blue, changing into delicate green. Belly and tail feathers paler blue, shifting with the light into an almost imperceptible shade of green. Two middle feathers of tail tinted on upper side with brownish-green, the rest darker at the tips, and the two outer feathers end in long narrow points, one-third of the width of the rest of the feathers, and nearly black. Bars of tail feathers, also nearly black. Food, insects, such as white ants. Rump feathers medium ultramarine, the feathers of the back overlap the wings on each side, excepting on the quill feathers, where the difference of colour is very strongly marked, and while the feathers of back overlap the wings, all these colours pass into each other by the most gentle and almost imperceptible gradations.

THE FLY-CATCHER.

Dimensions:—Expanse of wings, 9 inches; from bill to tail, 8 inches; from bill to toes, 7½ inches; bill, three-quarters of an inch, hooked at

point, and slightly festooned. General colour, grey. Scanty feathers on back. Head darker towards middle; tail feathers dark grey, closely barred with lighter grey; a white stripe runs between two black ones from the mandible over the eyes to back of head, but not joining. Wings and coverts, rich cinnamon. Quills and secondaries brown-edged with cinnamon. Belly, vent, throat, &c., from dirty white, pale grey, or dull yellow. The outer tail feathers nearly black, tipped with white and edged with white. Legs leaden grey. Bill horn colour. Under-wing coverts light grey. Eyes brown.

A SPECIES OF SPREW.

Bluish-green, or steel, gloss. Long tail, which it often elevates. The body and tail of a purple, golden gloss, and barred. There are two other kinds, one larger, with longer tail; the other small, with swallow tail.

THE CRESTED EAGLE.

MANKOTLOÈ OF THE SECHUANA.

Bluish-slate colour. Tips of wings black. Legs and belly white. Beak and tarsus yellow; very large crest, parted in the middle, seems to be about 6 feet from tip to tip. The first of the kind I have seen.

THE FRUIT-EATER.

(*Turdus Capensis.*)

Dimensions:—From bill to toes, nearly 7 inches; from bill to tail, 7¼ inches. Tail sepia-brown. Head sepia-brown, deepening into black on forehead. Body brownish-grey. Vent yellow. Breast grey, deepening into black under throat. Abdomen dirty white. Iris dark yellow, or sherry brown, a cerum of dark orange around the eyes. Bill black, slightly curved, three-quarters of an inch long. Legs dull black. Feathers of head erectile, which gives the head a larger appearance.

Female similar, but duller, colour; had a long articulated kind of tape-worm inside, 6 inches in length. Bird very lean; small seeds in the crop.

THE WIDGEON.

(*Podiceps minor.*)

Dimensions:—Expanse of wings, 1 ft. 3 in.; from bill to tail, 9 inches. Eyes grey. Belly and throat glossy satin-white. Crown of head, and back of neck and back, light sepia-brown. Wing coverts dark sepia brown or

grey, being a mixture of the lighter and darker filaments. Under-coverts white. Quill feathers white, and largely tipped with brown or dark grey. Shafts brown. No perceptible tail. Feet olive. Bill brown. Upper mandible brown, partially edged with dirty yellow. Lower mandible dirty yellow. Bill shaped like that of a Rail. They carry their rump high when swimming, dive with great facility. They never rise above the surface of the water in their flight, and seem to obtain support both with their feet and tips of their wings. They are found in rain pools, sometimes 100 miles or more from any river, and breed there. How they get back to the river I do not know; they must go at night, as nobody sees them. Sides grey. Under the wings a light grey mixture. The same in the female, only lighter.

THE WHITE-HEADED EAGLE.

(*Aquila Pandion.*)

Dimensions:—Expanse of wings, 6 ft. 4 in.; length from beak to claws, 3 feet. Wing coverts rich brown. Wings and back dark-brown. Breast reddish-brown. Head, neck, and breast white. Legs dark grisly yellow. Beak yellow, with black point. Yellow cerum extends to base of bill round the eyes. Utters a very loud sound, resembling an Ow-owlie. Feeds on fish, &c., and robs the Pelican and other birds of prey. Sits upright.

THE HERON.

(*Ardea atricollis.*)

Dimensions:—Expanse of wings, 5 feet; length, from bill to tail, 3 ft. 1 in.; length from bill to toes, 3 ft. 8 in. Slaty or bluish-grey colour, darker on the quills and tail, warmer and purplish on the wing coverts, and richer on the back and neck, with almost indistinct flushing of green. Throat, breast, belly, and thighs white, the latter greyish; underwings, coverts, and tail, greyish-white. Underneath, the quill feathers show white through the upper half. Legs dark grey. Upper mandible dark greenish-grey. Under mandible pale grey. Cerum round the eye pale chrome-yellow. Shoulder knots white.

THE REED HAWK (a kind of Cuckoo).

Dimensions:—Expanse of wings, 18 inches; length, 16 inches. Beak curved, and legs black. Crown of the head nearly black, in the male having a purple-bluish gloss. John Laing says this is the Jungle Crow of India. Tail barred with grey. Brown on back (in the male) tinged with greenish gloss. Cinnamon brown on wings. Tail dark-brown. Bill,

legs, and throat, dirty white. Eyes bright red. Feathers thin, the quills strong. Food, grasshoppers, &c. It has a very heavy clumsy flight, and generally flies into the reeds when alarmed. Two claws in front, and two behind; the inner ones longest.

THE LARK.

Dimensions:—Expanse of wings, 11 inches; length from bill to tail, 6½ inches; length from bill to toes, 6½ inches. Throat, belly, vent, &c., dirty white. Breast speckled grey. Quill feathers and secondaries brown, largely edged all round with light reddish-brown. Quill shafts black. Tail largely edged all round with light reddish-brown. All the other feathers of the head, neck, back, and wings, light grey, and darker down the middle, especially the greater and upper-wing coverts. Under-wing coverts dull reddish-brown; insides yellow. Bill light horn colour, half an inch long. Legs dull reddish-grey. Feathers covering the orifice of ears reddish-brown.

THE LINNET (Male).

Rooi Bekje.

(*Astrildæ.*)

Dimensions:—Expanse of wings, 6¼ inches; length, 5¾ inches; tail, 3 inches; bill, quarter of an inch. Crown of head, breast, and abdomen, dark cinnamon colour. Dark-brown under the throat and by the vent. Side of face bright purple. Forehead cobalt. Tail-coverts, upper and under, ultramarine. Tail feathers (five pairs) dark-brown, with blue tint, each pair a little shorter than the other. Eyes deep vermilion. Feathers of the wings dark grey, edged with reddish-brown. Bill red. Eyes brown. Cerum vermilion.

Female smaller. Back and wings grey. Breast and belly light-brown and reddish-yellow, darker on head. Tail-coverts ultramarine. Cheeks purple. Forehead cobalt. Eyes, bill, cerum, and legs as in the male.

THE BUSH PIGEON, or DOVE.

(*Columba guinea.*)

Dimensions:—Expanse of wings, 1 ft. 10 in.; length from bill to tail, 1 ft. 2 in. General colour dark grey-slate. Throat, neck, lower parts of back and breast bluish-slate and light purple or puce tint. Tail feathers dark grey, tipped with light ash. Legs dull purple. Bill dull black. Purple cerum round the eyes. Black glossy crescent back of neck. Quill feathers darker grey.

THE OWL.

Dimensions:—Expanse of wings, 3 ft. 3 in.; length from beak to claws, 1 foot; length from back of head to tail, 1 foot; length over the head to beak, 4 inches. Long-legged (monkey-faced Barn Owl). Face feathers pale grey, scanty, covered or edged with vandyke brown, springing from around the eyes. Outer edge, from orifice of ear, white. General colour raw or bare sienna. Upper parts grey (pepper and salt) with long spots, half white and half black. Quill feathers barred with dark grey. Tail ditto. Eyes bluish-black, and small. The inner or covered parts of quill feathers white. Tarsus feathered, down to the toes, which are covered with hairs. Beak dull white. Feet grey.

THE LARGE PHEASANT.

KOLEKWEBELO.

(*Francolinus Swainsoni.*)

Dimensions:—Expanse of wings, 2 feet; length from beak to tail, 1 ft. 3 in. Dark grey. Quill feathers partially speckled. Breast feathers edged with brown. Neck feathers painted black down middle. Throat bare red. Skin, cheek, and round the eyes, ditto. Legs black. Eyes dull brown. Upper mandible black, corners red. Spurs rounded at point. (The female has a bill of light horn colour. The legs lead colour.)

THE KITE.

(*Milvus ater parisiticus.*)

Dimensions:—Expanse of wings, 4 ft. 1 in.; length from bill to tail, 1 ft. 9 in.; length from bill to toes, 1 ft. 6 in. Quill feathers deep sepia-brown. Coverts, back, tail, and upper parts generally, dusky brown; the feathers of head and neck longitudinally striped with sepia-brown down the middle; all, excepting the outer tail feathers, barred. Feathers of the belly have a warmer tinge, shafts black. Lip yellow. Bill ditto, inclining to orange. Eyes chrome.

THE GROSBEAK, OR SPARROW.

(*Loxia socius.*)

Forehead dark sepia-brown. Crown, neck, cheeks, and back pale ashy-brown. Wings and tail sepia-brown. Greater coverts gently tipped with white. Secondaries edged with white, and quills very slightly. Tail tipped with white. A broad, horizontal white dash over the eyes. Rump feathers white. Belly, vent, and throat white. Bill robust, and grey. Legs and claws grey.

THE BLACKBIRD.

(*Saccecala Alpina.*)

Dimensions:—Expanse of wings, 11 inches; length from bill to tail, 7 inches; length from bill to toes, 7 inches. Eyes dull brown. Body black. Quills deep vandyke brown. Upper wing-coverts white. A white line from forehead traversing round the crown, and nearly joining at back of head. Bill and legs black.

THE FLY-CATCHER.

Dimensions:—Expanse of wings, 14 inches; length from bill to tail, 9 inches; length from bill to toes, 7 inches; bill, three-quarters of an inch long. Rather robust. Deep sepia-brown, becoming gradually paler towards extremity of wings. Head, back, tail, and hinder parts, bluish floss (of steel). Throat, breast, and belly, dull. Black feathers scanty on belly and breast, the latter largely tipped with white. Some of under-wing coverts ditto. Upper mandible slightly hooked at point, and has a small tooth and bristles. Legs black. Sharp claws. Swallow tail. Greater wing coverts tipped with black, and one or two outer of the lesser coverts perfectly black.

THE KORHAAN, OR KNORHAAN.

OTIS.

Dimensions:—Expanse of wings, 4 feet; height from bill to toes, 1 ft. 3½ in.; tail, 1 ft. 2 in. Neck long and slender. Bill, brown above, greenish-yellow below. Eyes yellow. A bunch of scanty feathers around orifice of large ears. Cerum around eye yellow. Eyebrows protruding; a black circular line extends from each eye round the back of head. Crown of head grey, formed by the mixture of creamy yellow and deep sienna-brown, in which the latter preponderates; all the feathers, excepting their edges, being of that colour. The feathers of the neck grey, made of creamy yellow and minute crescent-shaped bars of brown. The feathers of the back and tail barred with transverse, lozenge-shaped, and triangular bars, joined to each other by a longitudinal line of brown, the remaining parts of each feather being edged with creamy yellow, and irregularly filled up with crescent-shaped bars, which give it an appearance, in some places, of damask. Lesser wing coverts, pure white. The greater coverts near the back of the same colour with the back, but graduated until near the wrists, where it ends. Greater coverts on outer joints pale-brown at base, fading into white, with slight tinge of purple, then barred with black, excepting two central ones, and largely tipped with black, which is again irregularly edged or spotted with white. Quill feathers very rich brown; great part of each feather being white in the

middle, and gradually lessening until into the secondaries, where they are only barred with white, and at length only streaked and spotted Belly glossy black, and very deep brown; breast ditto, joined by a longitudinal black stripe down the throat. Under-wing coverts black, the larger ones brown. Wing-bone and breast-bone bare. Legs long, dull yellow. Toes three. Flies like a goose. The tips of the wings seem to be turned upward.

THE CHUA CHUNEA.

(*Buceros hastatus*) [*Toucan*].

Dimensions:—Expansion of wings, 2 ft. 2 in.; length, 1 ft. 7 in.; beak, 3 inches long. General colour of feathers light sepia-brown, with the edges whiter. Feathers on the head rather long, forming a crest. A white strip, beginning above the eye, about three-eighths of an inch broad, continuing to the back of the head. Feathers under the throat rather more grey. Belly and legs nearly white, mixed slightly with pale brown. Tail and quill feathers rather darker brown, edged with white. The two central feathers of the tail have strong white ribs, and they, as well as the two outer feathers, are brown down to the tips. The other six feathers, three on each side the centre, are tipped with white; tarsus and claws dark-brown or dull black, with a white singular spot on the upper mandible; broader near the edge; about an inch long, and tapering to a point. Nostril a small round hole near the base of the upper mandible. The beak curved. The upper mandible deepest, and having a kind of hump on it commencing at the base and extending half-way down. Eyes reddish-brown, very small, portion of naked skin round them.

THE MOCKING-BIRD.

(*Saccela œnanta.*)

Dimensions:—From bill to toes, 7 inches; from bill to tail, 7 inches; expanse of wings, 1 foot. Crown of head dark-brown, nearly black. A white streak from upper base of beak over to the back of eyes. Throat and sides of neck white. Breast black. Belly dirty white. Thighs and sides yellowish-brown. Wings paler brown. Back warmer brown, and upper wing coverts ditto. Back of head and neck dusky brown. Under coverts dirty white. Tail black, and at base white. Coverts white. Bill and legs dark-brown, or grey. Eyes brown. Bill slightly curved at tip, and moderately slender. Under tail coverts yellowish-brown. Called by the Boers, in Natal, Koggelaar.

THE EAGLE, OR OTHER VULTURINE BIRD.

(*Lämmergeyer.*)

Like the Pétéké in shape, but different in colour. Dimensions:—Expanse of wings, 6 feet; length from bill to tail, 2 ft. 3½ in.; bill to toes, 2 ft. 6 in. Eyes fiery yellow. Bill blue, or greenish-grey. Pale bluish-grey cerum from the eye to base of bill, with a few scattered hairs. Forehead feathered. Nostril transverse. Bill short, but gaped large and long. Feathers of the whole body dark-brown, edged with a warmer brown. Quills and secondaries dark brownish-grey or dusky black. Pale underneath, but the under-wing coverts are of the same uniform colour of the body. Legs pale bluish-grey. Feathered half-way down tarsal joint, and armed with strong black claws. Tail brownish-grey.

LE BATTALEUR.

(*Pétéké.*)

Dimensions:—Expanse of wings, 5 ft. 8 in.; length from beak to tail, 1 ft. 9 in.; from head to feet, 1 ft. 2 in.; from beak to feet, 2 ft. 2 in. Ashy-brown upper-wing coverts. Greater coverts deep sepia-brown. Quills brownish-grey, deepening nearly into black at the tips. Under wings white. Quill feathers much longer than the secondaries. Beak horn colour at the point, and the rest orange colour, deepening into red under the eyes. Feathers of the back very light reddish-brown.

THE GOOSE.

Dimensions:—Breadth of wings, 5 ft. 6 in.; feet, 2 ft. 5 in.; brown, speckled. Upper part of the tail and centre part of the back black. Neck, breast, and sides white, vandyked with brown. Legs amber. Cheeks and face whitish. Bright brown stripe across the face and around the eyes. Crown of head brown. Bill light horn colour. Legs flesh colour. Wings white, with black stripe near the ends. Outer quill feathers black. Secondaries glossy green (four inmost ones).

THE SMALL BEE-EATER (Male).

(*Merops apiaster.*)

Dimensions:—Breadth of wings, 10 inches; length from beak to tail, 7 inches; length of beak, 1 inch. Head, neck, back, tail, and shoulders, bright metallic green. Throat yellow. Round the eyes black, which extends to back of head. Above the eye a patch of celestial blue. Crescent-

shaped black spot on breast, fading into brown and dull reddish-yellow, tinged over with green. Quill feathers and tail feathers reddish-yellow, tipped with black.

THE WHITE IBIS.

(*Ibis religiosa.*)

Dimensions :—Expanse of wings, 4 ft. 4 in.; from bill to tail, 2 ft. 7 in.; bill to toes, 2 ft. 10 in.; beak, 8 inches, nearly quadrangular, with rounded ridge above nostrils; linear three-quarters of an inch long. Head and neck scantily covered with black and white short feathers. Skin visible. Head more feathered. Eyes grey. Body white. Bill black. The shafts of quills and secondaries partially streaked with black down the middle, and tipped with brownish-black (dull), with a shifting gloss of brown purple or green. Some of the secondaries nearest the body have the web of the feathers long, scant, and loose, and of the same colour as tip of wings.

THE DIKKOP (a kind of PLOVER, or BITTERN [?]).

(*Œdenamus.*)

Dimensions :—Expanse of wings, 2 ft. 4 in.; from bill to tail, 1 ft. 4½ in.; from bill to toes, 1 ft. 6½ in. Eyes large, chrome yellow. Yellow cerum. Bill black; yellow at base. Legs pale dull yellow, feathered half-way down tarsal-joint; yellow at back and under toes; dark sepia-brown in front. Eyelids white. A white spot at back of ear. A triangular black patch from under mandible to throat. Belly white. Ground colour of all the other parts of the body yellowish-brown. On the head, neck, and breast, marked longitudinally with dark sepia-brown. Back and tail, moreover, barred transversely. Greater wing-coverts edged with dull white. Under ditto lighter, becoming white towards the ends. Quill feathers dark-brown; three outer ones barred, with patch of white across the middle; from the sixth to the ninth ditto also tipped with white. Secondaries lighter towards the roots or under the coverts. Underneath the quills appear white, tipped with grey. Tail underneath yellowish or dark cream.

THE CROW.

LEHAKABI, SECHUANA.

Dimensions :—Expanse of wings, 3 ft. 4 in.; from bill to toes, 1 ft. 7 in.; from bill to tail, 1 ft. 7½ in.; bill, 2¼ inches long from the eye. Beak and legs black. Long and bushy hairs, laying flat on upper mandible, closing the nostril; a few at base of lower mandible, and before the eyes, which are dull brown. General colour inky black, with a purple metallic gloss.

which is darker and richer on wing-coverts. Broad band of white across from middle of back to back of head, the upper line then stretching round the neck to the breast, forms a broader continuation to below breast-bone, and extending to under the arms on either side. Tail underneath rather dusky black. Feathers on breast margin of white, also edged with white. The skin is of a pink colour; bare under the bones of wings; and, to a slight extent, upon the wrist also. Legs black. Outer and middle toe connected by a web extending to the first joint. Smaller web between middle and inner toe.

THE COMMON GUINEA-HEN.

Dimensions:—Expanse of wings, 2 ft. 10 in.; length, 2 ft. 2 in. Bill, upper mandible bluish-brown, with reddish tint at base, and lighter at tip; under mandible pale, dull, slaty-blue. Crown, comb, and point of ear-drops dark-red, iris brown, cerum of neck and throat pale purple, lighter around the eyes. Legs rich brown on the front scales, grey behind. They are highly gregarious in the dry season, several hundreds being found in one flock. They graze far from water during the day, going over fifteen or twenty miles before they return to water. They feed on grass, insects, grain, &c., like fowls; lay about thirty eggs each, dull white, with very pale grey speckles; are easily domesticated; utter a rather sharp, discordant, metallic sound, something like a rapid succession of strokes on iron, &c. They roost in mimosa or other tall thorn-trees, for fear of leopards, &c. Sometimes they do without water at mid-day, resting under the shade of trees, and when the greatest heat is passed they begin to feed towards the water, which may often be found by following them, but not always with success.

THE MUSCOVY GOOSE.

Dimensions:—Expanse of wings, 5 ft. 10 in,; from head to tail, 3 ft. 3½ in.; legs to point of middle toe, 1 ft. 7 in. General colour:—back dark-brown, with a green and purple gloss; quill feathers ditto; quills white; lesser wing-coverts white, greater wing-coverts dark-brown, with green and purple gloss, but white in the middle; thighs, neck, and throat brown, with dark gloss; cheeks white; eyes dark-brown; bill flesh-colour, with wart-like excrescences very formidable, having protuberances on the shoulder joints an inch long; legs to within an inch of the tarsus joint white, the rest pink. The male weighs 15 lbs.

THE HERON.

Dimensions:—Expanse of wings, 4 ft.; from bill to tail, 3ft. 1 in.; legs, 1 ft. 9 in. long. General colour on back dark slate. Upper-wing coverts grey, tinged with bright brown. Quill feathers dark-brown, with greenish

gloss. Breast and belly a mixture of dark chocolate brown and dark slaty-blue; under the wings light brown. Neck light brown, with a longitudinal stripe of dark blue down each side of the neck. Throat white. Breast feathers and under part of the neck a mixture of light-brown, white in the centre and dull black. Iris chrome-yellow. Upper mandible brown, edged with yellow. Arc greenish-yellow. Under mandible yellow. Claws crested.

THE KODZARA (Male).

(*Promerops erythrorynchus.*)

Dimensions:—Expanse of wings, 1 ft. 4 in.; from bill to feet, 1 ft. 4 in. Beak light vermilion red, slender and decimated, slightly curved, 1½ inches long. Legs mulberry, short, hawk-like, compressed. Eyes brown. Ten tail feathers, longest 9 inches, dark blue, with purple gloss, with shady transverse bars, each pair shorter than the other, and the four underneath pairs marked obliquely across, near the ends, with an oblong white spot, each half presenting the appearance of having been a little shifted from the other by the quills cutting across the middle. The head dark, glossy, steel-colour, with flashings of metallic green and gold. Back, breast, and belly ditto, but lighter, with more of gold. Quill feathers glossy steel-colour, greener underneath, barred across the middle, with large white spot. Six of greater wing-coverts tipped with white; upper-wing coverts purple; under coverts steel gloss, with flashings of green and purple. The colours of this bird are so variable with the light in which it is seen, that it is difficult to give a better description of it.

THE KODZARA (Female).

Dimensions:—Expanse of wings, 11½ inches; length from bill to tail, 10½ inches; length from bill to feet, 8 inches; length of tail, nearly 1¾ inches. Colour like the male, though not so rich; the feathers of the greater wing coverts on either side white, besides the quill feathers having a white spot as in the male; and two outside tail feathers have a white spot at the extremity. Eyes dull black. Bill ditto. Legs-dark brown. Bill more bent than in the male.

THE PLOVER.

SETULA TSIPI.

(*Vanellus arimatus.*)

Dimensions:—Expanse of wings, 2 ft. 2 in.; height from bill to toes, 1 ft. 4 in.; length from bill to tail, 1 ft. 1 in. Crown of head and forehead white; back of neck to shoulders white. Back rich sepia-brown and black, with green gloss. Upper-wing coverts pale ashy-grey; under coverts white; quills dark sepia-brown or black, white at the roots, the white in-

creasing in the secondaries until it preponderates, leaving them only tipped (the inner ones). Tail white, largely tipped with black. Breast and throat black. Legs and bill black. Bill 1 inch long. A sharp, curved, brown spur on each wing, tipped with white, and half an inch long.

THE TSABA GUSHOA.

Dimensions:—Expanse of wings, 1 ft. 2 in.; length from bill to tail, 10 inches; height from bill to toes, 8½ inches; beak, three-quarters of an inch long. Beak red. Legs dull reddish-yellow, and scaled. Eyes umber-brown. Claws brown. General colour, dull black all over, but the feathers at the roots are white on the breast, abdomen, and vent, and grey on the back and rump, so that wherever the tips of the feathers are disturbed, white or grey spots appear, imparting the appearance of white or grey feathers: the quill feathers may be considered dull white, largely tipped with brown, and a streak of brown all along the outer edge of quill shafts. Bill slightly curved on upper mandible, strong, flat below, and rounded above.

THE QUÈQUÈ.

(*Protincola.*)

Dimensions:—Expanse of wings, 19 inches; length from bill to tail, 8 inches; length from bill to toes, 10 inches. A kind of Plover or Snipe. Two distinct rings of black around the breast to bulk between shoulders, the other feathers of the back, tail, &c., sepia-brown, with light edging, divided from the central marking by a bold, crescent-shaped line of rich dark sepia. Quill feathers dark sepia. Secondaries warmer sepia, with a darker brown marking all around near the outer edge of the feathers, and the inner edging a dull white, like the belly, tail, &c. (underneath). The feathers of the head neck, &c., having the markings of those on the back, &c., quite distinct, but small, and on the throat and breast small longitudinal streaks of brown on a very dull yellow or dirty white, making a pretty mixture. Bill small, slightly curved, black, and quarter of an inch long. Eyes dull brown. Legs and feet like a Plover. Soars like a Swift.

THE TOUCAN.

HOTO.

Dimensions:—Expanse of wings, 33 inches; length from bill to toes, 17 inches; length from bill to tail, 20½ inches; length of bill, 3¼ inches; depth of bill at base, quarter of an inch. Eyes pale Naples yellow. General colour light sepia-brown. Quills, secondaries, and tail, dark sepia-brown, and all the feathers of wings and tail have a light edging. Bill burnt sienna. Legs dark-brown. Slow and clumsy flight, and easily caught on

a plain, as they do not fly above a certain distance. They are found in families of ten to fifteen, and often seem to try their wings by flying off, on, and over trees. The female is shut up in the nest by the male until the young are hatched, and fed by him. They lay from four to six eggs. The nest is made in the hollow of decayed trees. Belly and vent white.

THE KAFFIR CRANE.

MAWANI.

Dimensions:—Expanse of wings, 6 ft. 3 in.; height from bill to toes, 4 ft. 2½ in.; height from bill to tail, 3 ft. 5 in. Neck, back, belly, and breast neutral grey, lighter on the neck and darker on the back. Tail nearly black. Feathers short and upright, in the crown of head deep black. Crest 3½ inches of narrow, flat-twisted filaments of yellow. On each cheek a large patch of smooth marked white skin. Iris white. Quill feathers dull black. Secondaries deep cinnamon-brown. Upper-wing coverts white. Greater wing coverts tinge of yellow on inner ones. Under-wing coverts white. Legs dull black. Bill black.

THE PHEASANT (Male).

FRANCOLIN.

Dimensions:—Expanse of wings, 1 ft. 10 in.; length from bill to tail, 1 foot; length from bill to toes, 1 ft. 5 in. Beak red. Cerum yellow. Tarsi red. Eyes brown. The short feathers at base of beak are black. Feathers of head, neck, throat, &c., dull black, and light ash-coloured crescent-shaped bars. General colour pepper-and-salt, or speckled grey.

THE LONG-TAILED BLACK BUTCHER-BIRD.

(*Lanius melanoleucos.*)

Dimensions:—Expanse of wings, 1 ft. 4 in.; length from bill to tail, 1 ft. 5 in.; length of tail feathers, 1 foot. General colour black. Quill feathers white half way from the base, the remaining half black tipped with white. A white band stretching from the base of shoulder and going over the rump. Eyes dull black.

THE PEEWIT.

VANELLUS.

Dimensions:—Expanse of wings, 25 inches, slightly spurred; length, 12 inches. Throat white, merging into ashy-brown, deepening into a black band across the breast. Abdomen white, joining the black with a

sharp, well-defined edge. A black band from forehead over the eyes, joining it back of neck, within which the crown of head is white, with oblong dull black spot. General colour ashy-grey. Upper-wing coverts grey. Greater coverts white. Under coverts white. Quill feathers half white at base, other half black. Tail white, with broad black transverse band. Tips white. Tail coverts white. Legs deep pink. Bill at base pink, point blackish-brown. Middle of belly white. Large brown patch on breast.

THE LARGE QUAIL (Male).

Dimensions:—Breadth of wings, 13 inches; length from bill to tail, 7½ inches. General colour:—Breast and throat black; crescent-shaped white streak from ears under the throat, another passing above the eyes to back of head. Under the wings, pale grey or ash-colour. Belly feathers rich brown, with black down the middle. Back blackish-brown, each feather having a yellow stripe down the middle, and barred with three yellowish transverse bars across. Quill feathers pale brown. Wing coverts brown. Quill shafts white, and barred several times across. Crown of the head black, parted in the middle with yellowish feathers tinged with brown. Eyes reddish-brown or hazel. Legs yellow. Bill black.

THE LARGE QUAIL (Female).

Dimensions:—Breadth of wings, 14 inches; length from bill to tail, 8 inches. Very similar to the male bird, but lighter in colour, and no black on the breast or throat. Bill horn colour. Legs dull yellow. Crown of head dark-brown, parted with pale stripe as the male. Breast and bill feathers uniform pale reddish-brown, barred, getting paler towards the throat, which has an incomplete black crescent from under each eye.

THE PARROT OF THE LAKE.

(*Psittacus Meyeri.*)

Dimensions:—Tail, 7 inches. Head and neck to middle of back dark grey. Throat and breast a little paler. Lower half of back bluish-green. Tail brown. Wings dark grey, uniform with body. Shoulders orange yellow, which is brighter under wing coverts, and extending as far as the bone. From the breast to the tail the feathers are largely tipped with bluish metallic green. Legs black, thick, and scaly. Bill and claws dark-brown horn colour.

Male similar, but hues brighter.

THE RAIL.

(*Para Africana.*)

Dimensions:—Stilt legs, 10 inches long; height from beak to toes, 1 ft. 5 in.; expanse of wings, 1 ft. 6 in. Throat and cheeks white. Breast yellow; collar round neck at the breast edged with black. Crown of head to back of neck black. Quill feathers black, or invisible green. Beak and legs lead-colour. Upper mandible joined by a bluish cerum, extending from top of forehead. Eyes black.

THE THRUSH.

(*Turdus strepitans.*)

Dimensions:—Expanse of wings, 15 inches; height from bill to toes, 9½ inches; length from bill to tail, 9 inches. Back ash-colour. The feathers of the breast and sides patched with black, in the middle slightly tinged with brownish-yellow. Belly white. Black circle round the ears. Yellowish legs. Upper mandible black; lower yellow. Quill feathers dull yellow or cream half way down on the inner side, and the rest light brown, out of which branches a line which continues down the side of neck and nearly joining under the throat. Eyes dark-brown.

TSABA GUSHOA.

Death Scarer.

Black all over. Size of a thrush. Bill dark red. Legs dark.

THE SHOGOTSANI.

Hawk.

Dimensions:—Expanse of wings, 1 ft. 11½ in. Height, 1 ft. 2 in. Legs yellow. Beak black, yellow base. General colour slate-grey, edged with bright brown. Wing feathers edged with white, barred with black. Wing coverts barred with white. Belly and legs white, barred with brown. Breast and head feathers brown down the middle. Eyes yellow. Tail barred black. Wings underneath very much barred.

A VULTURINE BIRD, called THE WHITE CROW.

To be met with near the coast, and on the beach in Damara Land.

Dimensions:—Expanse of wings, 6 feet; from beak to tail, 2 ft. 6 in.; from beak to toes, 2 ft. 2 in.; length of legs, 1 foot; length of neck, from breast-bone, 9 inches; length of bill, 3½ inches. The bill horn colour, hooked and slender, horn colour for 1 inch at the tip, the remainder, in-

cluding face and throat to the back of eyes, an orange cerum, darker above. Web of crown feathers scanty. General colour white. Wings dark brownish-grey, except the upper and under coverts, which are white, with a broad dash of dirty white or pale grey on the outer web of the quills and secondaries. It has a purplish tint on the main parts of the wing. Webs of breast and ventral feathers scanty. Tail wedge-shaped. Legs flesh-colour. Claws light horn colour. Third quill feather is the longest. Nostrils large and linear. Bill slender.

THE LARGE BROWN VULTURE.

Dimensions:—Expanse of wings, 10 feet; length to tail, 4 ft. 3 in.; length to toes, 4 ft. 1½ in. It has very massive powerful mandibles, of a light dull horn colour, changing into bluish-grey at base, dark brown on the upper one. Head and neck bare, and of a red flesh colour, lighter on forehead, and white around the eyes. Face blotched with red; cheeks, and throat purple, changing into bluish-grey or lead colour at base of bill. Light blue-grey cerum or belt at base of upper mandible, widening into the forehead, where it is more than an inch broad. A few short hairs on head. Bristles in front of eyes, and under throat or chin more numerously. Nostrils transverse. Eyes brown. Legs blue-grey. Claws large and black. General colour rich dark-brown feathers, edged with warmer brown. Lower part of neck brown; feathers protrude through thick white down; front of neck short glossy brown feathers, parted in the middle, and showing on either side the thick white down; the breast covered with thick white down. White down under the wings. The long narrow feathers of the breast and belly are edged with warm brown, and the lower half is broad and downy. Thighs and vent thick white or dirty white down. Legs feathered to within 2 inches of the toes, which makes the bird look as if he had fur drawers on. This is the Vulture which feeds the Bushmen and Berg-Damaras.

DARK-BROWN COMMON VULTURE (Male).

Dimensions:—Expanse of wings, 5 feet; from head to toes, 2 ft. 5 in.; from head to tail, 2 ft. 5 in. Back of head and neck covered with brownish down, underneath bare flesh colour. Breast white down underneath. Legs white down, with sprinkling of coarse black feathers. Long slender mandibles, grey flesh colour at base.

THE VULTURE.

Dimensions:—Expanse of wings, 8 feet; from beak to tail and toes, 3 ft. 10 in. Dark-brown, or dull black. Thighs covered with thick white down. Head and neck bare. Purple skin. Cheeks slate. Pale greyish-

blue legs. Very powerful thick horny mandibles, and blue talons. Breast covered with thick whitish down, over which brown, long, narrow feathers. Bristles under throat, and few hairs over eyes and head.

THE WHITE-HEADED BLACK VULTURE.

Dimensions:—Expanse of wings, 6 ft. 5 in.; from bill to tail, 3 ft. 1 in.; from beak to toes, 3 ft. 2 in. Beak dull bluish-grey. Eyes black. Breast and neck white down, covered with loose black feathers. Thick white down under the wings. Inner quill feathers under the wings white, gradually getting darker towards the end. Tail black.

THE EAGLE.

Dimensions:—From tip to tip, 5 ft. 6 in.; extreme length, 2 ft. 2 in.; to the claws, 2 feet. Bill horn colour; cere dull yellow. Eyes brown and speckled. Nostril oblong. Feet yellow. Claws black. General colour brown, warmer on the head. Tail dark. Quills dark. Secondaries and tarsus black. Upper coverts irregularly mixed, dark and warm brown. Body covered with white down. Throat, belly, and under coverts a warm yellowish brown. Secondaries, indications of being barred. Tail ditto. Quills and larger feathers showing a pale purple gloss.

THE PÉTÉKÉ.

HELOTARSUS ECAUDATUS (Smith).

Dimensions:—Expanse of wings, 6 feet; from beak to tail, 2 feet; from bill to toes, 2 ft. 5 in. General colour of head, neck, and body, deep black, with slight tinge of greenish gloss. Tail and middle of back, rich rufous brown. Legs feathered half-way down; the tarsal-joint black. Beak orange yellow passing into red, point greenish. Legs reddish-yellow and scaly. Tarsal scales very prominent like tubercles. Wings grey, tipped with black. Quill feathers darker. Under coverts white. Quills whitish underneath, excepting the ends, which are bluish-grey. Eyes brown. The feathers of the head, neck, breast, and legs are long and full, and when raised by the bird under excitement, gives it a very majestic appearance.

This small but handsome Eagle is pretty common throughout Damara Land. It is likewise found at the Lake, on the river Zambesi, and extends even as far south as the Cape. Pétéké is the name given it by the Bushmen.

This is a very bold bird, as I can tell by experience. I fired one shot at it in its nest, where it concealed itself, and I, thinking it dead, sent a lad up the tree, which he climbed with great difficulty, but no sooner did the bird

discover this movement, than peeping over the side of the nest, it prepared for flight, when a second shot arrested its progress. I was standing about forty yards from the tree, and, to my great surprise, it flew straight at my head with open mouth and claws. I tried flight, but before I removed far it alighted on my head: by ducking very low, I escaped with the loss of my hat, taken prisoner by the bird, who had alighted on the ground, and looked round at my retreating figure with an evident inclination to give me further chase. Seizing a stick, I returned to the attack, but no sooner had I moved than I found my daring enemy equally ready for the contest; not waiting to be first repulsed, it came at me with such unmistakable intentions, that I struck it a blow on the head, which prostrated him (or her), and five or six more blows put an end to its courage.

The natives here tell me that its prey are steinboks, hares, jackals, the young of pallahs, and other antelopes. The Damaras say, when they have wounded this bird, which they sometimes do with their bows and arrows, they are obliged to approach him very cautiously afterwards for fear of having their eyes torn out.

The *H. ecaudatus* but rarely moves its wings when hunting: it is a kind of steady and powerful sailing through space. In such situations it is easily distinguished from all other species by the remarkable shortness of its tail.

THE EAGLE.

(*Aquila bellicosa.*)

Dimensions:—Expanse of wings, 6 ft. 4 in.; from beak to tail, or toes, 2 ft. 7 in. Dull black, or dark sepia-brown. Belly snow-white, like ermine, with black pear-shaped spots. Tail barred. Quill feathers barred. Shoulder lighter grey, edged with white. Eyes deep chrome-yellow. Feet yellowish-grey. Beak dark horn colour. Inner fore talon longer than the rest. It builds its nest in the trees, and lays two large white eggs. Feathers of the head long, and like a double crest when raised. Monkotloe is the Sechuana name for it.

THE EAGLE-HAWK.

Dimensions:—Expanse of wings, 3 ft. 9 in.; from beak to tail, 1 ft. 11 in.; from beak to claws, 1 ft. 11 in. Bill slate-blue, orange-yellow at base. Checks, legs, and feet yellow. Tarsus black and strong. Legs bare and scaly.

THE HAWK.

Dimensions:—Expanse of wings, 3 ft. 5 in.; length to tail, 1 ft. 5 in.; length to toes, 1 ft. 4 in. Head large. Legs yellow. Claws black. Bill horn colour. Nostrils round. Bill toothed. Legs long. Eyes dull black.

Crown of head flat and broad. Colour above, warm neutral grey, edged with light yellowish-grey. Tail imperfectly barred with lighter colour. Naked round the eyes. Eyes raw umber-brown. Crown of head yellowish-grey, with dark points. Under coverts warmer and spotted, or imperfectly barred. Quills underneath imperfectly barred with white. Throat and vent, light, a black streak from each corner of mouth, breast feathers grey, largely edged with dirty yellow. The whole bird underneath a very pretty spotted appearance. Bill short, with cerum over it.

THE FALCON.

(*Falco.*)

Dimensions:—Expanse of wings, 2 feet; extreme length to tail, 1 foot; extreme length to toes, 10 inches. Bill short, toothed, bright orange yellow, tipped with horn colour. Nostrils round. Bright yellow cerum round the eyes, which are brown. Legs yellow. Tarsi naked. Head purplish-brown. A dash of dark sepia-brown over the eyes, and, inclining downwards; another vertical patch of dark sepia-brown under the eyes. Throat white. Neck and breast pale fawn or yellow, with a purplish tinge. From the neck to the tail, pale slaty-grey, barred closely and regularly with deep brownish-grey, saving the extremity of the tail, which is broadly banded with black, leaving the tips nearly white, the shoulders are tinged with reddish-brown. From the breast the whole of the underneath is also regularly and closely barred as above, but on a white ground, wings included. The quills and secondaries a shade browner.

THE FALCON.

(*Falco.*)

Dimensions:—Expanse of wings, 22½ inches; length, from beak to tail, 12½ inches; length of tail, 6 inches; length of legs, 6 inches; and red, with sharp black claws. Middle toe much elongated. Tarsus scutellated. Bill toothed, short and hooked. Black mandible. Cerum dark orange. Nostril round. Irides rubineous and narrow. Pupil large. Hard projection or shade over the eyes. General colour slaty-grey, or dark ashy, with a tinge of brown. Quills barred with dark grey, and partake more of a light-brown above, and white beneath belly and thighs. Under coverts barred with narrow bars of brownish-grey. Vent and rump white; some of the outer tertials barred with white on the inside web. Secondaries tipped with white. Eleven tail feathers. Tail, dove-tail, wedge-shaped, dark grey above, barred with dark-brown and white underneath, barred with a deeper brown.

THE HAWK (another).

Dimensions:—Expanse of wings, 4 feet; length, 1 ft. 10½ in.; length to tail, 1 ft. 8 in. Head large. Eyes pale yellowish-grey. Bill, horn

colour and festooned. Orange cerum. Nostril round. Legs orange-yellow. Claws large and black. Tarsi partially feathered in front, but evidently worn bare behind. General colour rich madder-brown, darker towards the extremities of the wings. Some of the inner quills and secondaries are lighter brown barred with the deeper colour. Tail sienna, partially barred towards the extremities, which are tipped with brown. Some of the middle tail feathers (young ones) have a gold and violet gloss. Thighs yellowish-white, tinged with sienna, indicating bars. Belly and wings underneath white, excepting the tips, which are deep brown. The breast feathers streaked at intervals with an oblong heart-shaped spot down the middle. Under-wing coverts partially ditto, or otherwise irregularly spotted or tipped with reddish or brownish-grey. A long projection over the eye.

THE HAWK.

SPARROW HAWK.

Dimensions:—Expanse of wings, 2 ft. 8 in.; from bill to tail, 1 foot; from bill to toes, 10½ inches. Catches mice. Has a flat nest, like a round truss, made of twigs, and full of the fur of mice in little balls. Irides yellow. Bill short and black. Claws ditto. Feet yellow. Legs nearly feathered to the toes. The whole underneath of the bird is white, excepting the quills, which are grey, and somewhat dark towards the extremities, and some of the breast and throat feathers being painted with raw sienna, and their quills with burnt sienna. The head, back, neck, and tail, are of a neutral grey, deepening very much towards the greater and lesser wing coverts, being nearly black. All the feathers of the head, neck, back, wings, and tail, are uniformly edged with white at the tips; those of the head, neck, and back slightly, and with brown or dirty white, while the inner edging on the sides of the bird, and on the inner great coverts, are divided from the grey with a warm tinge of raw sienna. Throat, chin, and face, brownish-white. Eyes surrounded by a patch of very deep neutral grey. Wings very long.

THE HAWK, OR FALCON.

Dimensions:—Expanse of wings, 22½ inches; from bill to tail, 12½ inches; tail, 6 inches long; legs, 6 inches long, red, with sharp black claws, middle toe much elongated. Tarsus scutellated. Bill toothed, short, hooked, and black. Cerum dark orange. Nostrils round. Irides rubineous, and narrow circle, pupil large. Projecting eyebrows like an eagle. General colour slaty-grey or dark ash, with a tinge of brown. Quill feathers barred with dark grey, and partake more of light-brown above, and white beneath. Belly, thighs, and under coverts barred with narrow bars of brownish-grey. Vent and rump white. Some of the outer tertials barred with white on the inner web. Secondaries tipped with white on inner web. Tail dark

grey, wedge-shaped, above barred with dark-brown and white, underneath barred with a deeper brown. This bird has the loudest note for its size of any bird I know of. It perches on high trees during the day, and pounces down upon smaller birds, which it makes its prey. I have seen this bird in chase of the Woodlark and Thrush.

THE OWL (Large Female).

Dimensions :—Expanse of wings, 5 feet ; extreme length, 2 ft. 5 in. ; eyes dark. Bill and claws horn colour. Tarsi and toes feathered. General colour brownish-grey, or speckled wavy bars. All the larger feathers, quills, tail, secondaries, &c., being ditto, and barred, moreover, with broad bands of pure brown. The upper coverts and back are almost an uniform vandyke brown. The under-wing coverts, belly, &c., lighter (white ground colour), and crossed with wavy bars larger than the smaller ones on the upper part of the body. The bill and claws are tremendously powerful. The head with feathers on is as large as a child's fully, being from 6 to 8 inches in diameter. Eyelids naked, red. The feathers on cheeks white. scantily clothed, and tipped with black, which forms a circular stripe round each eye, and gives it the monkey face. The nostrils are round, and from the base of the bill ridged bristles radiate forward uniformly with the black-tipped stripe of feathers round the eyes. The bill is more blue than horn colour. Hoots.

THE OWLET.

Dimensions:—Expanse of wings, 1 ft. 2 in. ; from bill to claws, 7½ inches. ; from bill to tail, 7 inches. Body light ashy-brown, with oblong or pear-shaped white spots. Quill feathers dark-brown, barred with dull yellow on one side, and creamy white on the other. Tail feathers brown, and marked with a succession of oblong white spots placed transversely in pairs. The head (which is richer brown) profusely studded with small round spots, below white long downy feathers, with here and there a longitudinal spot of brown. Eyes dull chrome-yellow. Legs and feet feathered to the claws. Underneath wings cream colour preponderates, but the ends of quill feathers barred with ashy-brown. Beak light horn colour. Claws a little darker. I see them only in the day time, when they are very lively. They fly like a Lark, and whistle something like them, once raising its notes to the highest pitch, and then decreasing them.

THE SNAKE BIRD.

Dimensions:—Expanse of wings, 2 ft. 7½ in.; length to tail, 1 ft. 11 in. ; length to toes, 1 ft. 7 in. ; length of bill, 2 inches. Upper mandible hooked, brown, and barred slantingly forward (the lower edge of which is

of a lighter colour. Under mandible pale yellowish-brown. Eyes bright ruby. Legs and feet black and webbed, including the hinder toe. Middle of the three front toes serrated. Toes covered with fine, smooth, narrow transverse scales. Legs reticulated rather than scaled. Head and neck brown, growing deeper towards the back and rump, which is black with greenish gloss. Tail feathers duller. The same general colour prevails throughout the wings, but the light greyish-brown of the greater wing coverts and tertiary feathers, tipped and edged near the margin with black, and the extreme edge dull reddish-white, gives it a marvellously rich lustre. Upper and lesser wing coverts black. Throat and breast light brownish-grey. Belly, dull white (grey at base). Vent black. Slightest indication of a tongue, and no perceptible nostrils, though slight indications.

THE TOMTIT.

Dimensions:—Expanse of wings, 6½ inches; length, 4¼ inches. Breast and cheek glossy black, shot with steel blue. Head and back ashy-grey. Wing coverts black, with blue tinge, lesser coverts tipped with white. Throat white, and back of neck also white. Quills brown. Belly white. Tail deep brown, tinged with steel blue. Outer web and outer tail feathers, white, and all more or less tipped with white. Eyes very bright yellow. Rump a mixture of white and black. Bill black. Upper mandible bent at point. Legs dark-brown. The tips only of the belly feathers are white, underneath they are dark grey.

Female very similar, but duller, and the breast, throat, and neck a dark yellow instead of white.

THE TOMTIT (Female).

Dimensions:—Expanse of wings, 6½ inches; extreme length, 5½ inches; length to toes, 5 inches. General colour light brownish-grey, at the edge to a reddish-brown. Yellowish on the belly. Bill slender. Legs and bill grey (light). Eyes light-brown.

The male is marked black on the breast.

THE TOMTIT (another).

Dimensions:—Expanse of wings, 9 inches; length, 4½ inches. General colour slaty-grey. Quills brown. Greater coverts darker, edged and tipped with white. Tail dark-brown, tipped with white. Head and throat black. Cheeks white. Breast black. Bill ditto. Legs dark lead colour. Eyes brown.

THE WREN, OR TITMOUSE.

Dimensions:—Expanse of wings, 6½ inches; extreme length, 4½ inches; length to toes nearly the same. Eyes yellow. Bill and tarsi black.

Upper mandible bent at the point. Crown and back ash. Cheeks black, nearly joining in a collar behind. Neck, breast and throat light sienna, joining in a collar behind neck. Rump a mixture of black and white. Tail feathers black (with green gloss), tipped with white; the outside feathers also edged distinctly with white. Quills light-brown, closely barred with a somewhat darker shade, and almost imperceptible. Secondaries darker, edged with white. Upper coverts largely tipped with white, and some of the tertials also tipped or edged with white. Under coverts black. Belly white. Found in anna-boom. Food, flowers of the tree, &c.

THE SMALL BLACK FINCH.

Brown wings. Crown of head exceedingly bright orange-yellow. Back yellow. Tail brown. Yellow spot in front of each shoulder. Thighs dull white. Legs brown. Eyes black.

THE FINCH (Male).

At this season (November) it is of a bright yellow. Face and chin, or from over the eyes to throat, black. The wings are brown, edged with yellow, and the back grey, largely edged with yellow. The bill is black and robust. The legs pale grey. They come in large flocks, and are a pest when corn is in question. The forehead from the bill is a rich brown, fading into yellow.

The females are a duller colour, grey, or pale brown and yellow, and no black.

THE YELLOW-BREASTED FINCH.

Dimensions:—Expanse of wings, 10 inches: from bill to tail, 6 inches; from bill to toes, 5 inches. Breast, throat, and middle of belly orange-yellow, darker on breast. Head dark-brown, the feathers being edged with lighter brown, white blaze over the crown, and down middle of forehead to base of bill, one white streak over, and one under the eyes, extending to near back of the head, and inclining towards each other. Vent very pale grey, or dull white. Back brown. Neck grey. Rump dark ashy-grey. Tail dark-brown with light edging, and two underneath feathers largely tipped with white. Quills brown. Greater coverts tipped with white; quills brown, lesser coverts white, partially covered with lesser ones of grey, forming, with that of the greater coverts, two white lines across the wings. Secondaries edged with the warm hue of back; under coverts grey. Upper mandible dark-brown, festooned near the base. Under mandible light horn colour. Eyes dull black. Legs pale yellowish-grey.

CRINOLINE (WHIDAH) FINCH.

Breast of a rich brown. Bill and feet black. Length of body, 6 inches to the end of true tail. Two tail feathers 13 inches long; two broad ones 4½ inches long, and including the tails attached 7½. The two latter are placed between the two long ones, which are also vertically placed, giving it a very massive appearance. The feathers are further barred transversely like watered silk. It has also two threads, like spirally-twisted silky filaments, under the rudder-like feathers of tail.

THE CRINOLINE FINCH (Female).

WHIDAH.

Dark brownish-grey, very much speckled all over the middle of the feathers, being dark-brown or faded black. A black feather on the middle of each wing. Crown of head black, parted in the middle by a pale stripe, which recurves from the back of the head on either side, and passes over the eyes to the base of the bill. Breast dull white, speckled, having a few rufous feathers visible. Belly white. Tail brown. This bird in its actions is very like the male, flying, for so small a bird, very high, and evidently with some difficulty. In descending again they seem to let themselves fall head foremost, suddenly checking their descent at intervals.

THE ROOI BEKJE, OR LINNET.

Dimensions:—Expanse of wings, 6½ inches; extreme length, 5 inches; length to toes, 4 inches. Bill red, a red streak to the back of the eyes. Red pencilling on the breast. Vent deep brown, otherwise this bird is marked all over with minute bars of light-brown on a dull yellowish ground, the tail being darker. Eyes brown.

SMALL BLACK FINCH.

Cream yellow breast. Four long bare tail feathers feathered for about an inch at the end.

THE GREY LORY (Male).

TOURACO.

Dimensions:—Expanse of wings, 2 ft. 1 in.; length to tail, 1 ft. 9 in.; legs, 6 inches; tuft or crest, 2½ to 3 inches; bill thick, deep at base, 1 inch, rounded, notched at point; in upper mandible and lower one serrated. Eyes dull slaty-grey. Nostril linear. General colour brownish-grey, with a tinge of green on quills and tail feathers, which are darker

brown, with greenish gloss. Green tinge on breast stronger. The food is fruits, berries, &c., particularly the seeds of the mistletoe, and another sweet-smelling berry, which is also the product of another parasite clinging to the trunks of the anna-boom. It has an aggravating, mocking, human-like voice ("why! why!") which it is sure to salute you with whenever you pass beneath its perch, and not unfrequently startles you as well as your game, especially when stealthily stalking a Rhinoceros or Elephant.

THE BLUE SPREW.

Dimensions:—Expanse of wings, 1 ft. 4 in.; from bill to toes, 10 inches; from bill to tail, 9½ inches; bill, 1 inch long to corner of mouth; tail, 3 inches long. Bill and legs black. Irides rich cadmium yellow. Colour of body, varying with the light, dark glossy green; steel-blue, and purple, the latter colour preponderating on the head, rump, tail, and the flashings on quills. The under-wing coverts are metallic purple, the lesser of the upper-wing coverts form a golden spot. The tail feathers, and those of the wings, are closely barred across like watered silk. The greater wing coverts are slightly tipped across with very deep steel-blue. Quills underneath, and inner web of the upper side, dark grey, as also the underneath tail feathers. Nostrils oblong. The eye is so excessively bright, that at a little distance the bird seems to have a red cerum round the eye. Scutellated tarsi.

THE QUAIL.

Dimensions:—From tip to tip, 10 inches. Bill and feet bluish-grey. Three toes. Eyes yellow. Breast rich brown down the middle, bounded on either side by a row of whitish feathers slightly tinged with black, painted with large black spots in the centre. Throat and belly yellowish-white. Side of neck whitish, feathers fringed with black, and black spots in the middle. The crown and back of head is parted with a row of rich brown, black, and white feathers, in which the latter preponderates in the middle. On either side of this white stripe run three longitudinal rows of rich brown, black, and white feathers, in which the former predominates. Whiskers covering the ears. The feathers of the back reddish-chestnut brown, fringed with grey, and barred transversely with black mark. The brown is again bounded with a longitudinal stripe of black on either side. Quill feathers grey, edged outside with white; greater coverts bright reddish-brown, barred with black, and edged with white near the base, but otherwise whitish feathers, with large patches of black and rich reddish-brown.

The female is known by the absence of brown on the breast, and is of a paler colour.

THE PARTRIDGE.

Dimensions:—Expanse of wings, 1 ft. 9 in.; from bill to tail, 1 ft. 2 in.; from bill to toes, 1 ft. 4 in. All underneath is yellow ochre. Tail barred with brown. Breast plain. Thighs grey on inside. Under coverts a duller ochre. Throat white, edged with black margin from corner of bill. Another black and white stripe from over the eyes winds parallel, and ends near the middle. White patch before and behind the eye. Bill brown, lighter underneath. Quill feathers reddish-brown, irregularly barred, but plain; in middle of the wing grey feathers, with eight transverse and white crossings down the middle, the whole overlaid with thin transparent yellowish-brown. Legs light yellowish-brown. Breast pale ochre, with patches of yellowish-brown. Throat greyish, speckled white, nearly black. Eyes yellowish-brown.

THE GREY PHEASANT.

Male: large spur, red bill and feet, &c.
Female: bill horn colour. Legs pale brownish-yellow.

THE CHEWÈWÈ.

Dimensions:—Expanse of wings, 17 inches; from bill to tail, 10½ inches; from bill to toes, 9½ inches; bill, 1 inch long, black, and slightly bent. General colour black, with steel and blue purple gloss. Quills creamy white, tipped with rich dark-brown, and more so towards the extremity, even including the outer web of outside quills. The outer web of the next three or four quills are pointed with burnt sienna. Eyes rich cadmium. Seen in small flocks of ten or one dozen on high trees or high rocks, and look larger at a distance and when on the wing than they really are. Tarsi scutellated. Sprew?

THE QUAGGA DŻARRA, OR TSGAI.

Dimensions:—Expanse of wings, 1 foot; tail, 8 inches from bill; toes, 7 inches from bill. Throat, belly, and underneath tail, white; under-wing coverts dark-brown, nearly black. Crown of head and cheeks grey, a white collar round the neck, black wings, and tail dark-brown, or dull black, with slight tinge of green. The quill feathers are largely barred across with white (inner web), a streak of white runs parallel with these through the wing coverts to the top of secondaries, which are edged with white. The outer tail feathers are white, the next nearly so, and the remainder more or less largely tipped with white, until the middle are very slightly tipped only. All the whites on the body are arranged in longitudinal stripes, dis-

tributed in such a manner as to make the bird look like the colour of the animal on whose withers it rides. The irides are very bright yellow, and the eyes surrounded by a peculiar yellow articulated cerum. Legs vermilion. Claws light grey, sharp, and compressed. Bill black, three-quarters of an inch long, upper mandible hooked at point, and slightly festooned; has a few bristles. Nostrils linear.

THE GNU'S KHALA (shot at Mutu Mabie).

Dimensions:—Expanse of wings, 11 inches; from bill to tail about 7 inches. General colour black, but rather dusky. Head black. Body becoming lighter towards the wings, which are dark grey. A steel gloss appears on back of head and breast when held in sunlight. Tail feathers slightly tipped with white. Underneath feathers edged and tipped with white. Under tail coverts largely tipped with white. Under-wing coverts white, or largely tipped and edged with white. Bill short; rather black; rounded and polished. Legs black. Claws compressed and sharp. Eyes dull black. They sit on the shoulders of the Gnu, and warn him of the approach of danger (as the Khala of the Rhinoceros also does that animal) by uttering a cry of alarm and fluttering over its head. Found only where the Gnus inhabit.

THE SEA-COW BIRD.

In the Zambesi and Gwai rivers. Looks like a small Sandpiper. They go in flocks of from ten to twenty, sitting on, or hovering clamorously over the spot where the Hippopotamus has disappeared beneath the flood. They thus warn the animal in the same way as the Khala. They are of a dark cold grey. White underneath. Legs and bill red. Greater wing coverts tipped with, or altogether, white. Red cerum round the eye.

THE SEA-COW BIRD.

A little smaller than the smallest of the Sandpipers I have seen. It is of a dark-brown colour, white underneath. Legs and bill dark red. There is a white stripe running through the middle of each wing.

THE KINGFISHER.

Dimensions:—Expanse of wings, 18 inches; length to tail, 11 inches; length to toes, 9 inches; length of bill, 2½ inches, and black. Forehead brown. Crown of longish erectile feathers, forming a crest. Feathers of neck, back, and wings irregularly marked with white edges or tips and black

edges or tips, or black and white in regular streaks or spots. All the black or dark parts have a tinge of green in them. Quills white, largely tipped with deep brown. The secondaries have an irregular or wavy longitudinal marking in the middle of each feather. Greater wing coverts with black, glossy, rounded spots. Tail feathers white; largely tipped with glossy greenish-black, and some have black notches on the edges of the white portion of the feathers. Legs dark grey. Claws small. Under coverts silvery-white, and belly and throat ditto. Under the throat a broad band or imperfect collar passes; nearly joining at back; and immediately below is a narrow transverse line of a mixture of brown and black feathers having a greenish gloss. Saw a very large bluish or dark slaty-grey Kingfisher, with warm sienna wing richly barred.

THE SMALL BLACK-AND-WHITE KINGFISHER.

Dimensions:—Expanse of wings, 1 ft. 6 in.; from bill to tail, 11 inches; from bill to toes, 9 inches; bill (black), 2½ inches long. Legs black and short. Claws small. Eyes dark-blue. Crown of head greenish-black. At the back of head longer, forming a crest, and mixed with white. A white ring round the neck; separated from the throat by a streak of black cutting across horizontally on either side. Throat, belly, and vent white. A whitish speckled streak from forehead over the eyes, and lost in the crest. Back, wings, and tail greenish-black; speckled, barred, and tipped with white. Larger in the quills, tail, and secondaries. Lower half of tail feathers spotted with black; the other half spotted and tipped with white. Quills (inner ones) largely barred with white across the middle; outer ones only on the inner side, but the outermost one edged all the way with white. Secondaries largely barred and tipped with white. From the back, at base of neck, a collar of dull black nearly joining in the middle of breast. Breast feathers slightly edged with grey. Nostrils linear.

THE GOLDEN SNIPE.

Dimensions:—Expanse of wings, 13 inches; length to toes, 9 inches; length to tail, 8 inches. Head, neck, and back to tail, brownish-grey, with golden gloss. The feathers, especially on back, being edged with a lighter colour, and barred, almost imperceptibly, with a darker shade. Belly feathers white, but dark grey at base. Throat white; changing gradually into grey on the breast, where the feathers are streaked down the middle with warmish brown. Under-wing coverts brown, tipped with white. Upper-wing coverts more strongly barred than the back, and the golden gloss also stronger. Wrist feathers tipped with white. The quill feathers have large white patches on inner web. Secondaries white at base, then brownish-grey in middle, and tips white. Bill dark

grey. Under mandible lighter. Legs pale greenish-grey. The eyes were destroyed by a shot passing through.

THE SPUR-WINGED PLOVER (Male).

Dimensions:—Expanse of wings, 2 ft. 8 in.; length to toes, 1 ft. 7 in.; length to tail, 1 ft. 3 in.; length of bill, 1¼ in. Back, neck, and wings pale sienna-brown, with a rich silkish gloss all over. Forehead white. Remainder of head, to the top of each eye, dark-brown. Throat ditto. Cheek feathers brown down the middle, and white edges. Breast, neck, and belly uniform with back, but not so glossy, and darker near vent. Under-wing coverts white. Tail white, with broad transverse bars. Quills (quill feathers) deep sienna-brown. Brown spurs on each wing one-third of an inch long. Bill bright saffron-yellow, and dark-brown at tip, which is slightly bent. Nostrils linear. Yellow cerum around the eyes, which are dullish pearl. It has yellow drops, or lappets, attached before the eyes, each dividing into two from the root or base, the lower or longest one (which is an inch long) being bright saffron-yellow, and the upper portion being dark crimson on the outside, and the whole yellow underneath, where the feathers are whitish. These drops incline towards each other on the forehead. The legs are 9½ inches long, and of a greenish-yellow colour. Its cry is not so loud as the "Setula tsipi" (Iron-hammer, or Blacksmith). They utter a very gentle tick-tick, and go in pairs only. This is the first and only occasion I have seen this bird.

THE ADJUTANT.

Dimensions:—Expanse of wings, 8 feet; length, 5 feet; beak and head, 1 ft. 2½ in. Bill strong and massive, and of dark sepia-brown colour. Greenish shifting gloss on wings, and white underneath. Legs white. Tail dark. Rump feathers under the tail white. Downy pouch like a dewlap. Bill slightly bent. Food, noxious reptiles and carrion.

THE CRANE.

Belly and thighs pale buff. Iris grey. Beak saffron, or turmeric-yellow colour. Quill feathers black. Tail ditto. General colour of body brown. One upper mandible slightly hooked; edges of both very sharp, and fit into each other.

THE GREAT HERON.

(*Ardea goliath*).

Dimensions:—Expanse of wings, 7 feet; from beak to toes, 6 ft. 1½ in.;

from beak to tail, 4 ft. 10 in.; neck and bill, 3 feet; bill to corners of mouth, 8 inches. Head, neck, two-thirds of breast, belly, vent, and under-wing coverts cinnamon-brown. Darker on crest and belly; breast, belly, and vent being overlaid with the grey, which gives it a slight purple tint. Throat white to about two inches behind the jaw; then commences dark slaty-grey speckled with white. Base of neck (one-third) lighter grey. The long feathers before the breast shafts and tips white, back of wings and back of tail grey (slaty). Upper mandible dull black, and lower one horn colour. Eyes bright yellow. Legs dull black.

THE BLUE HERON, OR AIGRETTE.

Dimensions:—Expanse of wings, 2 feet; length to toes, 1 ft. 3 in. Beak black. Green at base. General colour slate-blue. Breast and inside of thighs cream-yellow. The feathers down the throat and under side of neck edged with pale yellow. Eyes dark sherry colour. A bunch of white down on breast under the other feathers, and on either side of rump. Legs yellowish-green, with olive in front.

THE HERON (Female).

Crown of head bluish-black, with green gloss. Back the same. From back of head hangs one peculiar feather, cylindrical, long, curled, round like a quill. White at base and black at point. Iris deep orange red. Legs bright yellow. Bill black and olive.

THE JABIRU.

Red-billed. Black wings. Red legs.

THE WHITE STORK.

Dimensions:—Expanse of wings, 7 feet; to tail, 4 feet; length of legs, 1 ft. 11 in.; bill, 7 inches, and straight. General colour white. Tail white. Quill feathers of wings black. Legs and bill dark red. Iris dull black. Small bare red patch round the eyes.

THE BITTERN.

Dimensions:—Expanse of wings, 30 inches; length, 18 inches; legs, 8 inches; toes, 3 inches; bill, 1¼ inches. Eyes bright chrome-yellow. Bill

black at point, yellow at base. Feathers of the back and wings marked in the centre with heart-shaped bars of deep brown. General colour dull sienna. Quills, scapularies, and secondaries nearly black. The three middle quills tipped with white, the three outer ones are barred across the middle with white.

THE WHITE SPOONBILL.

Body perfectly white. Bill lead or spleen colour, mottled with red margin, and dark red at its junction with the forehead. Legs dark red. Middle claw feathered on the side like the Night Hawk and Heron. Iris silver-grey.

THE WHITE IBIS.

Dimensions:—Expanse of wings, 4 feet; extreme length, 3 ft. 1 in.; legs, 15 inches long; neck, 8 inches long; bill, 7 inches long. Bill and legs black or deep-brown. General colour white. Head and neck grey, speckled. Quills, secondaries, and tertiaries, tipped with brown and black, with green and purple gloss, the tertiaries having a loose web. Little coverts on the wrists tipped with black.

THE GLOSSY IBIS.

(*Tantalus.*)

Dimensions:—Expanse of wings, 4 feet; length to toes, 2 ft. 8 in. Neck and cheeks rather denuded of feathers. Belly white, from insertion of wings. Wings and tail black, and, when extended, snow-white on the back. General colour glossy black, flashing with green and purple when light is reflected. Legs red. Feet partially webbed. Beak slightly bent down at point. Cheeks, and round the eye, flesh, or pale vermilion colour. Eye dull black or blue. More of purple on the bunch of dark feathers of breast. Black feathers on top of tail, and a layer of white feathers underneath. On each shoulder a small white spot. It feeds on insects, and tastes sweet, like a duck, and is very fat.

THE CURLEW.

Dimensions:—Expanse of wings, nearly 4 feet; extreme length, 2 ft. 4 in.; legs, 10 inches long; bill, 6 inches long. Bill brown horn colour. Legs bluish-grey. Eyes brown. Under-wing coverts and vent white. On the body the feathers are streaked down the middle with brown; on the breast and neck the feathers are pale dull yellow, streaked down the middle with brown. On the back and wing coverts brown preponderates through-

out each feather, the margins being lighter reddish-brown, fading to white. The four outer primaries are nearly all brown. The inner ones are tipped with white, and dotted all round the web with hemispherical spots. In the secondaries the spots become larger, and approach one another, nearly forming bars. The rump is white, the tail distinctly barred. The eyes brown. Chin white. Nostrils linear.

THE LARGE WIDGEON, OR KING DIVER.

Dimensions:—Expanse of wings, 31 inches; from beak to tail, 20 inches; from beak to toes, 4½ inches more. Eyes ruby. Lives in the rocks. Food, shrimps, sea-lice, &c. It has a straight pointed Venetian red bill, brown above and red on sides and below (sides rather compressed). Nostrils linear. General colour brown, with a slight gloss. Has a longish parted black crest on head. Crown of head and face also black. Cheeks reddish-brown. Long, fine feathers. Throat white. The back of head changing gradually into the brown of the body, half-way down the neck. Belly and breast satin-white. The secondaries, tertials, and lesser wing coverts, white.

THE YELLOW-BILLED LARGE DUCK.

Pale sepia-brown, darker on the back, and lighter below, largely edged with dull white beneath, and dull yellow above. Quills of upper coverts, and tertiary feathers, back, and tail, darker sepia-brown with smaller edging of light. Secondaries having a blue-purple gloss. Head grey. Eyes pale yellowish-brown. Bill deep yellow, black on the top to near the tip, and tip also black in upper and under mandible.

THE DUCK.

Dimensions:—Expanse of wings, 2 ft. 4½ in.; from bill to tail, 1 ft. 6½ in.; from bill to toes, 1 ft. 7 in. Head brown. Back and tail greenish-brown, with velvety gloss, boldly edged all round with a reddish-yellow. Scapularies and tertiaries bolder and richer. Lesser wing coverts, greenish-brown without the edging. Greater coverts tipped with reddish-yellow. Quills brown (darker). Secondaries grey at base, a black velvety bar across the middle, and remaining half reddish-yellow. Throat and cheeks, as far as eyes, grey at roots, white in middle, and tipped with brown. Neck, underneath and around, speckled, each feather being spotted in the middle with brown. Feathers of breast and belly underneath, all grey at base, white in the middle, and with cream or pale cinnamon-colour, and barred two or three times across with brown; vent feathers edged with reddish-yellow. A light coloured triangular mark in the middle, lengthwise. The under-wing coverts brown, tipped and barred with white. Legs

dull purplish-grey. Bill brown above, purple towards point, red towards base on the sides. Eyes brown. The feathers of the head have a faint edging of a warmer colour. Breast indented.

THE HONEY, OR SUGAR BIRD.

(*Nectarina.*)

Dimensions:—Expanse of wings, 1 ft. 1¼ in.; net length, 10 inches. Legs short. Bill black, crooked, thin, and 2 inches long. Head, neck, and body black, with steel-blue, and purple gloss, including also the tail and upper-wing coverts. Quill feathers have more of a greenish gloss, barred white across the middle, and round spot on inner web. Two white feathers under the upper coverts of one wing, and one white feather on the opposite wing at the end of wrist-bone, the other probably lost. The belly and vent is duller than the body. Tarsi scutellated and dirty black. Corner and inside of mouth yellow.

THE HAMBULA.

Dimensions:—Expanse of wings, 11½ inches; length, 7 inches. Back of head, neck, and breast black. Face, forehead, and throat, scarlet or bright crimson. Belly and vent grey, edged with yellow (grey at roots). Wing coverts dark neutral grey, speckled with small bars and spots. Quills, tail, and secondaries dark-brown. Outer web edged with yellow. Very robust. Black toothed bill. Legs grey. Eyes red. Peculiar and loud note, like the notes of a smith's hammer, nicely modulated.

THE GIRAFFE BIRD.

INGABÈ TSGAI.

A beautiful bird, accompanying also the Koodoo, but no other animals. It is said (by the Bushmen) to be a beautiful bird, and spotted like the animal after which it is named, but the preponderating colour is golden green. The Bushmen and Bamañwato make what they call Pĕku (a charm?), which they use when going to war. They grind it after burning to a cinder, and then mix with fat; the doctor or wizard anoints the foreheads or tips of the tongue with this, draws circles round their eyes, &c. &c. This will induce the enemy to go to sleep, and become an easy prey. The Khala of the Rhinoceros is used for the same purpose. The Giraffe has also got a friend, Kwa-tsai. Bill long, red, and bent. Feet ditto. That on the Eland is also a different bird. No bird accompanies the Elephant. The Kwa-tsai is a very pretty glossy blue bird. They say they cannot kill the Eland-bird (Du-tsai) it is so wary.

A STRANGE BIRD.

Dimensions:—Expanse of wings, 10 inches; from bill to tail, 6¼ inches; from bill to toes, 5½ inches. Strong, black, robust bill, with bristles. A strong tooth near middle of upper mandible, and a slight festooning near base. Forehead dark red. Crown of head and neck black, speckled behind, which gradually disperses in the back to yellow (the tips), the black becoming gradually duller, until at the rump the ground colour is grey, mixed with yellow. Tail dark grey, edged with yellowish-white. A stripe of yellow over and from before the eyes is continued with white to back of head; from the face passes next a broad black line under the eyes to back of head. Cheeks black. Throat, breast, belly, under coverts, and vent, a dull yellowish-white. Wings black, fading towards the extremities into grey. Secondaries, quills, and greater wing coverts, edged with yellow on outer web; lesser coverts with yellow, speckled on shoulders with white. Eyes brown.

THE CUCKOO.

Dimensions:—Length, 14 inches. General colour grey. Feathers not so much tipped with white, excepting the tail. Throat pale grey, tinged with dirty yellow, barred with transverse lines, becoming bolder towards the breast, which is white, with transverse bands of black, becoming bolder still, until end of tail. Claws as the male, but yellow. Tarsi yellow. Bill greenish-yellow and hooked. Iris yellow. Wings and tail long. Legs short. Thighs barred. Difficult to shoot and skin, owing to the feathers being so loose in the skin.

RED SAND-LARK (?).

Dimensions:—Expanse of wings, 10 inches; length to tail and toes, 6 inches. Bill short, black, robust. Cheek and throat black. Breast ditto. Belly, vent, &c., pale grey, nearly white. The back, neck, and upper coverts are reddish-brown. The primary and greater coverts brown, fading off at the edges, which are nearly white. Legs grey.

THE FLY-CATCHER.

Dimensions:—Expanse of wings, 12½ inches; from bill to tail, 7½ inches; from bill to toes, 7 inches. General colour deep brownish (vandyke) black, darker on the back, belly, and throat. Upper-wing coverts and rump white. Crown of head a brownish-grey, some of the the tail feathers nearly all white, but irregularly tipped or edged with brown. Eyes dull black. Legs dull black.

THE FLY-CATCHER (Another).

Expanse of wings, 8¼ inches; length, 6½ inches. Nearly reddish-grey, lighter on belly. A white band from upper mandible over the eye to over back of ear. Brown streak before and behind the eye. Back and tail burnt sienna, the latter tipped broadly with black, excepting the three outer on each side. Quill feathers dark grey; on outside edged with reddish-grey. Secondaries with broader margin of same tint. Greater and lesser wing coverts reddish-grey. Under coverts lighter, or nearly dull white, like the belly. Bill and legs dull brown, the latter very dull. Irides dull brown. Found in pairs. From corner of mouth the bill is seven-eighths of an inch, slightly curved and slender. Small black ant in the craw. There are no flies to be seen now (June).

THE TOUCAN.

Dimensions:—Expanse of wings, 1 ft. 10½ in.; from bill to tail, 1 ft. 6 in.; from bill to toes, 1 ft. 2½ in. Bill dull chrome-yellow, edges dark brownish-grey. Irides pale Naples yellow. Back dull black. Quills ditto. Upper tail feathers ditto. The feathers of the upper-wing coverts are spotted with a large white spot, leaving only the outer edges of the feathers dark-brown. The inner feathers of the secondaries are pale brownish-grey, the edges paler, the outer ones white, with large blotches of deep brown near the root end of quills. Head, neck, throat, and breast, grey, formed by a mixture of dark and white filaments. Belly and legs white. Crown of head dark-brown. Bill more than an inch deep, very much compressed; upper mandibles having a razor-like edge above. Bill, 3 inches long. Legs black and short. Quill feathers white; patch on outer web and three or four feathers. A transverse white oblong spot exactly opposite on the the other web (this is one of the three different kinds of Toucan). White line half-way down the back. Under tail feathers white, with one grey bar across the middle; upper dark-brown or black; a slight tinge of green on the darker parts.

THE TOUCAN.

(HOKAKU OF THE BUSHMEN:—EGOTU OF THE DAMARAS.)

Dimensions:—Expanse of wings, 2 ft. 2 in.; extreme length, 1 ft. 9½ in.; tail, 9½ inches long; legs (brown), 7 inches long; bill, from back of eye, 4 inches long. Bill jagged edges; the front half underneath yellow, edged with brown. Irides chrome. Tarsi scutellated in front. Throat bare. Chin nearly so. Crown of head dark grey, nearly black, with small admixture of white. Naked cerum round the eye. Throat and neck covered with white feathers edged with black; that of the neck becoming white, and extending down to middle of back, which, with the upper tail feathers, are black or very deep brown. Ten tail feathers; the three outer

ones on each side are one-half white, divided off in the two outer ones by an irregular circular bar, leaving the appearance of large white spots. The upper two tail feathers partake strongly of brown; the two next are blacker, and all the dark parts partake of a greenish gloss. Quills black, with small white spots, on second, third, and fifth. Some of the secondaries are white; others nearly so, changing gradually in depth of colour to a darkish brown. The scapularies edged with white. Upper coverts dark-brown, or black, with large white spot nearly occupying the whole of each feather. Belly, vent, thigh, and under coverts, white; but by the scantiness of the plumage, under the wings, I should say this is a young bird. Food, insects, seed, &c. Voice like a clucking hen. Good eating when young.

THE PAROQUET (Female).

Dimensions:—Expanse of wings, 12 inches; length, 6½ inches. Bill white. Eyes dark-brown. General colour very bright glossy green (vegetable green). Tail and wings darker, and tinged with blue above. Tail feathers have a brownish-red spot in middle. Rump bright celestial blue. Inner web of quills brown. Legs grey. Claws brown. A bright scarlet band crosses the forehead as far as back of the eyes down the cheeks, gradually fading towards the breast, where it blends with the green. Under mandible pale green, and both tipped with bluish horn colour. They go in flocks of from twenty to thirty, always alighting close to one another. Red spot in each tail. Feather surrounded by a light green ray, next to which comes a streak of incomplete tears equi-distant from the base. When the bird becomes excited, and spreads its tail, these spots and rays of tears form nearly a complete circle, and look like a pretty sunflower, &c., &c.

THE PARROT.

Dimensions: — Expanse of wings, 17 inches; length, 10 inches. General colour glossy olive-brown, darker on back, with a strong greenish tinge. Shoulders bright orange-yellow. Thighs, rump, and under tail coverts bright celestial blue; lower part of the thighs deeper orange. Tail and legs brown. Bill brown. The male has the brightest colours. Under-wing coverts yellow. The young, though full grown, have only a little yellow under the wings, and a little blue on the rump. This is probably only during the first year. Utters a very discordant screech. Go in pairs, sometimes three or four pairs, but not in flocks like the Green Paroquet.

SHRIKE (?).

Dimensions:—Expanse of wings, 11¼ inches; from bill to tail, 9 inches;

from bill to toes, 8 inches. Throat, belly, vent, &c., bright scarlet. Head, neck, back, tail, and wings black, the latter fading towards their extremities. A few white feathers on the rump and at the insertion of the wings. A white longitudinal stripe from under the lesser coverts to the ends of secondaries, two or three of which have the outer webs white. Feathers of legs black, with a few brown speckles. Legs, claws, and bill black. Part of upper mandible slightly hooked and slightly festooned. Bill three-fourths of an inch long. Eyes dull bluish-grey. Has a few bristles. Nostrils linear.

THE SMALL SHRIKE.

Dimensions:—Expanse of wings, 10 inches; length to tail and toes, 6 inches; bill half an inch; strong hook at point, and has a sharp tooth. Vent white. Broad band of rich rufous down each side. Crown of head dark-brown or black, intermixed with grey. A white circle passing from before upper mandible over the eyes to back of head. The dark colour of head again succeeding from back of the eye down back of neck on either side to the back, leaving a patch of dull yellowish-white in middle. Rump grey, formed by a mixture of black and white filaments. Wings light-brown, edged on outside with dull white. The greater wing coverts being either wholly or partially dull yellow. Tail sepia-brown, edged and tipped with white. Eyes brown, with white eyelashes underneath. Upper mandible black; under mandible dull blue, tipped with black. Legs bluish-grey.

THE RED SHRIKE.

A few white speckles on the rump indicates the sex female.

THE BUTCHER BIRD.

Cinereous colour, rich brown on back. From cheek and around the eyes passing around the forehead black. Upper tail feathers black, tipped with white. Under tail feathers white half way from the roots, rest black. Breast, belly, and throat dull white or yellow, with slight tint of purple. Eyes black.

THE SWALLOW-TAILED, OR SCISSOR-TAILED BIRD (A TYRANT FLY-CATCHER).

Dimensions—Expanse of wings, 15 inches; from bill to tail, 10¼ inches; from bill to toes, 7½ inches. Bill black, and hooked at the point. Eyes hazel. Tarsi black and scutellated. Tail forked. General colour black,

shot with blue purple gloss. The tail ribbed with transverse bars of a deeper hue or shade. Quill feathers light-brown. Secondaries dark. Nostrils oblong, with a few bristles. This bird has a peculiar loud and musical note, and delights to sing in the moonlight; by day is it comparatively silent, yet actively employed nevertheless in catching flies and throwing wonderful somersaults in the air after them. I think it must be one of the Tyrant Fly-catchers. It will sit for hours during the night singing loudly and sweetly, and changing its song and its tones every ten minutes. It is the only bird that has been able to give me any idea of the Nightingale. I have seen this little bird following and battling in the air with the Eagle (Griffard) and the large brown Kite. Can it be for some parasites which are on these birds, perhaps? In the pairing season the female is very coy, and is chased about for a long time by the male.

THE WHITE CHATTERER.

Dimensions:—Expanse of wings, 12 inches; length, 10½ inches; length to toes, 9 inches. Eyes orange. Bill and tarsi dark-brown, nearly black. Bill slightly bent, and one inch long. General colour snow white, excepting upper-wing coverts and tail, which are deep brown, nearly black, and closely barred with almost imperceptible bars. They go in flocks of from ten to twenty, and make a tremendous chatter.

THE WHITE-HEADED CHATTERER.

The cheeks marked with black indicates the sex to be female. The female has the head and neck quite white.

THE POUW (Female).

GOLDEN-EYE.

Dimensions:—Expanse of wings, 5 ft. 8 in.; length, 3 feet; bill, 2½ inches long, broad, and vertically compressed at base. Upper mandible slightly bent at point. Head large, dark grey. Back of head white. Back of neck warm sienna, merging into the body. Feathers of the scapulars, secondaries, and upper coverts dark sepia-brown, with irregular heart-shaped bars of light sienna, warmer and lighter towards the points. The brown bands are again irregularly spotted with minuter spots disposed in wavy bars. The rump feathers with minuter wavy bars of warm sienna, and has a rich speckled appearance. Quill sepia-brown (the fourth and fifth are nearly all white.) The tips of wing coverts white. White also preponderates in the tertials. Tail largely barred with brown and warm sienna alternately, the lighter parts being again irregularly marked with wavy blotches and spots of brown. Secondaries and scapulars ditto. Throat to

breast brownish-grey, with minute bars of wavy white. Breast, belly, under-wing, and tail coverts white. Legs dull greenish-yellow. Eyes speckled, like fine gold dust, or frosted gold. Skin bluish. No crest. The down is white or pale grey.

THE CROAKING KORHAAN.

Dimensions:—Expanse of wings, 3 ft. 8 in.; length, 1 ft. 10 in.; bill, 1½ inches long, broad at base, vertically compressed, bent at point, horn colour. Head large. Neck thin and long. Belly, vent, and under coverts white. Dull yellow legs. Throat black, forming a line of black down middle of neck into breast. Head speckled grey, being admixture of minute bars of brown sienna with a wash of ashy-white over it. Quills, secondaries, and tertials rich olive-cream, largely tipped with deep sepia-brown. The scapulars are reddish-cream, marked across with large patches and smaller bars or speckles of brown at the tips, the brown bars being blotched with the lighter colour, and the lighter parts speckled with the brown. The upper coverts pale speckled creamy-grey, with a tinge of pale Indian red over it, and irregular bars. Tail feathers ditto. The large feathers barred also with light-brown. Head feathers longish, but laying down over a short black crest, from which a black ring round neck. The down at the root of feathers Indian red, same as that on the large Pouw. Generally three are found together. They do not fly up and hover noisily in the air like the common Korhaan, but have rather a low steady flight. The tips of the wings generally depressed. In walking they have a way of swaying their neck backwards and forwards in a peculiar manner, like a Muscovy Duck. They are very shy in this country, scarcely ever allowing one to come within shot range.

THE SMALL CRESTED POUW.

Dimensions:—Expanse of wings, 6 ft. 6 in.; length, 3 ft. 6 in. General colour the same as the large-crested Pouw. The bill is 4 inches long (from the corner of the mouth always). Small crest. The central grey feathers of crown, when lifted, showing the most beautiful wavy markings. Eyes pale yellow. Breast bone showing bluish skin. Thighs also rather bare. Feathers also parted behind the neck. The brown circle round the neck is indistinct. In other respects it is very like the Gom Pouw (large-crested); seems an old bird, and also a female, like the rest. They lay two large eggs on the ground, spotted like a turkey's. Light purple down underneath.

THE GOM POUW (Female).

GUM BUZZARD.

Dimensions:—Expanse of wings, 10 ft. 6 in.; length, 4 ft. 8 in. Crest dark sepia-brown, somewhat speckled. Eyes brown. Bill horn colour,

and 5 inches long. Under mandible lighter. Neck feathers long, scanty, and barred with brown. Legs dull and greenish-yellow. Belly white. Dark circular band around the breast to the back. General colour a mixture of warm brown, sepia-brown, brownish-yellow, and white; darker and lighter in parts; and the larger feathers being regularly and distinctly barred with brown warm bars, gives the bird a speckled grey appearance. The bill, head, and crest together measure 12 inches. The male is very similar, but much smaller.

Further Particulars.—Nostrils linear. Bare spot under each eye and under each ear. A tuft of scanty feathers at the ears. Bill straight. Upper mandible slightly bent at point. Horn colour. Under mandible lighter. Eyes pale yellow (some reddish-brown, but may be a suffusion of blood). Quills barred with wavy bars of brownish-grey. Greater wing coverts tipped with white. The white in the secondaries is brighter. Irregularly blotched with spots of brownish-grey. Greater wing coverts banded near the tips with deep brown (raw umber), indicative of black spotted lines, and otherwise beautifully speckled. Crown margin deep, brown or black all round. Centre of crown short. Rigid grey or speckled feathers; some of the long feathers of the crest being streaked down the middle with white. Breast bare, showing bluish skin. Feathers parted behind the neck down into the back. Three toes. Food: grass, leaves, insects, berries, &c. They are fat in the berry season, and always make their appearance after a shower to pick up the spiders, centipedes, scorpions, termites, beetles, and other insects. They are generally found in pairs, and eat a great quantity of pebbles, which soon break up the insects in its stomach. Light purple or puce down underneath.

THE KORHAAN (Male).

Dimensions:—Expanse of wings, 34 inches; length, 22 inches; bill 1½ inches in length. Back, scapulary, and upper coverts irregularly brown in the middle. The margin a dull yellow, with violet tinge. This margin is, however, regularly speckled or barred with wavy bars of brown, and the tail-feathers are a beautiful admixture of minute brown and creamy-white wavy bars, and tipped at the point with deep brown. Crown of head brown. Underneath covered over with pale slaty-blue, and surrounded with a ring of brown speckled feathers. Neck brownish-grey. Throat ditto, overlaid with the slaty-blue to the breast, which is spotted also with pure white. Quills a deep rich brown, the inner ones crossed with large creamy bars; large bands of cream colour also cross the tertials. Secondaries deep rich brown, barred with oval white spots. Legs greenish-yellow. Bill brown under mandible. Bluish horn colour. The underneath is a deep rich brown, commencing abruptly about the middle of the breast to the end of the tail, and the wings are lighter and duller underneath, saving the extremities of the inner secondaries, which are distinctly crossed with larger and smaller wavy bars. Eyes yellow.

THE RED-BREASTED POUW.

This bird is somewhat smaller than the Gom Pouw. The bill very much shorter; the plumage richer. Head large. Crown deep brown or dark grey. No crest. Neck and breast reddish-brown. Belly white. Makes a loud booming noise like the Ostrich.

THE SOUTH AFRICAN RING-DOVE, OR TURTLE DOVE.

Dimensions:—Expanse of wings, 19 inches; from bill to tail, 12 inches; from bill to toes, 10½ inches. General colour ash. Darker or paler in parts. The rump inclines to blue; the back or scapulars to brown; the tail, vent, and throat to white; and the breast and neck to a light reddish-purple or mosaic tinge. The quill feathers are a silky brown. Eyes dark brown. Legs dark red. Bill black. The lower half of the under-tail feathers dark grey. This bird has a black collar round the back part of neck.

THE SMALL RIVER-DOVE.

Back and first half of wings dark ash colour, and sometimes barred with white. Quill feathers reddish-brown; outer edges black. Greater wing coverts dark grey, tipped with white. A spot of glossy green on the two inner ones. Rump grey, barred across with black. Tail dark grey, tipped with black. Belly pale ash colour. Bill and eyes black. Feet dark dull purple.

THE TURTLE DOVE.

Dimensions:—Expanse of wings, 15 inches; extreme length, 11 inches. Head, neck, and breast light reddish-purple, fading gradually into white at the vent and tail underneath. Throat feathers black, largely tipped with the same, but warmer, giving it a rich black speckled appearance. Upper-wing coverts, rump, and tail slaty-blue; brighter on the rump, and dull and dark on the tail. Quills dark brown. Back and part of the wing (tertials) edged with warm fawn colour, giving it, with the blue underneath, a rich appearance like shot silk. Bill black. Chin white. Legs dull purple vermilion. Eyes dark brown. Underneath tail feathers tipped with white half way.

THE TURTLE DOVE (Female).

Dimensions:—Expanse of wings, 16½ inches; length to tail, 10 inches; length to toes, 8 inches. Belly, vent, and underneath of tail white. Primaries and upper tail feathers dark slaty-grey. Upper coverts and rump slaty-blue. Tertials ditto. Secondaries ditto, but a little darker. Scapularies and back slaty-grey, largely fringed with warm brown. Head and throat light purple, deepening on the breast. Feathers of the throat black; all largely tipped with reddish-brown, which gives the throat a

rich mottled appearance. Bill dark brown. Eyes brown, with purplish cerum. Legs dull purple. Claws brown.

THE NAMAQUA DOVE (Male).

Dimensions:—Expanse of wings, 12½ inches; length to tail, 10½ inches (female a trifle less). General colour ash. Face, throat, and breast black. Belly white. Tail black or dark grey at base. Quills and secondaries reddish-brown, largely tipped and edged with black. Two or three large gold and purple spots on each wing in the tertials. Tail coverts tipped with black, making bars across the rump. Bill half orange, and base half purple. The bill of the female is brown, and she has no black on face, throat, or breast. The tail and quills are brown above, legs in both a purplish-red. Eyes brown. The female is a trifle smaller. The legs are very short. They are very tame, but extremely difficult to skin owing to the tenderness of the skin.

THE RING-DOVE.

Dimensions:—Expanse of wings, 18 inches; length to toes, 10 inches; length to tail, 11 inches. Throat, neck, breast, and belly, pale ashy-grey. Lighter towards the belly, which is white, with a light red or purplish tinge. Head, rump, and tail slaty-blue; the latter with a brownish tinge. The back brownish or olive. Quills and wrist-feathers dark slaty-grey. Secondaries bluish slaty-grey. Upper and under-wing coverts pale bluish ash-colour, deepening towards the back into the same brownish-olive (the colour of the back is formed apparently by an admixture of slaty-blue and brown). A deep black collar on back of neck, not connected under the throat. Legs pale reddish-purple. Bill black. Underneath tail feathers are black or deep brown at base, largely tipped with white. Eyes damaged.

THE ROLLER, OR JAY (Male).

Dimensions:—Expanse of wings, 2 feet; extreme length, 1 ft. 2 in.; length to toes, 11 inches. Bill dark brown, 1½ inches. Nostril linear (oblique) near the base. Eyes brown. Eye naked above, below, and bare patch behind. Crown of head brown, with wash of green over it. A white patch runs over the eye from base of bill. At back of head it has a patch of white feathers. Back and scapularies brown or olive, with stronger wash of green, which is invisible in some lights, which substitutes a purplish tinge. Upper coverts violet, changing into reddish or purplish-brown. Quills, tertials, and secondaries changing with the light from a deep ultramarine to indigo, with deep brown or black edging on inner webs, and a green tinge on outer webs of two or three outer quills. Tail feathers of the same deep blue, with a purple tinge; two middle feathers being blackish, or cold green. Rump violet. Under coverts violet or

pale purple. Vent ditto. Belly and throat reddish-brown. Each feather streaked down the middle with white. Legs dull yellow. Bill hooked at point. Food: grubs, worms, and other insects. There are three or four varieties, and another with the two long tail-feathers. I have met with them from here (Damara Land) to the desert beyond the Lake. The female is 2 inches less in expanse of wings. Eggs white, as large as a Turtle Dove's.

THE CROW.

LEHAKABI.

Dimensions:—Expanse of wings, 3 ft. 4 in.; from bill to toes, 1 ft. 7 in.; from bill to tail, 1 ft. 7½ in. Bill, 2¼ inches from the eye. Beak and legs black, long, and bushy. Hairs lying flat on the upper mandible, a few at base of lower mandible, and before the eyes, which are dull brown. General colour inky black, with purple metallic gloss, which is darker and richer on wing coverts. Broad band of white across, from the shoulder to back of neck, the upper line then stretching in a semicircular manner on the breast, forms a broader continuation of the band, this extending under the arms, and transversely ending at the commencement of the vent. Tail underneath rather dusky black. Feathers on breast, on margin of the white, also edged with white. The skin is of a pink colour, bare under the bones of wings, and to a slight extent upon the wrist also. Legs black. Outer and middle toe connected by a web, extending to the first joint. Smaller web between middle and inner toe.

THE BLACK-HEADED WOODPECKER.

Both the male and female are similar in all respects, saving the scarlet on the crown of head, and that the quill and tail shafts are yellow, and the rump, back, and wings, has a yellowish tinge.

THE RED-HEADED WOODPECKER.

KAPENDA MUTI.

Dimensions:—Expanse of wings, 10½ inches; length from bill to tail, 6½ inches; length from bill to toes, 6 inches; length of bill three-quarters of an inch. The crown of head scarlet. The bars and quill shafts of quill and tail feathers yellow, and a uniform pale grey on cheek and throat. Eyes brown.

THE WOODPECKER (Female).

Dimensions:—Expanse of wings, 16 inches; extreme length, 9¼ inches. Legs short. Bill, 1 inch long, straight and brown. Ground colour of head to the back of neck is black, speckled on forehead with white, and on the crown the feathers are pointed with red, giving it a red coating. Cheek black, surrounded by white lines from over the eye to base of neck

and back, under the eye to bill, then a white stripe down the middle of throat to breast, which is light grey barred with dull white. The upper parts of body are darker grey, imperfectly barred, or notched with white in the wings. Quill shafts white; in tail white, short, and rigid. Eyes hazel-brown. Tongue barbed. Tarsi scutellated.

THE RED-HEADED WOODPECKER (Male).

I find there must be two distinct kinds: the one which I formerly took to be the male of the larger kind must be the male of the smaller species. It is about the same size as the little red-headed fellow, but differs in the absence of the red crown.

Female brown and white.

THE PICUS.

A specimen of red-headed, large kind, male, has red cheeks, in which it differs from all the rest. It is also of a brighter colour, with a tinge of pale green on breast and fore parts.

LARGE YELLOW BAT.

Dimensions:—Expanse of wings, 1 ft. 1 in. The underneath yellow, like a Canary-bird. The web transparent. The bones or framework of wings rosy.

ORTYGYPS AURICULARIS. (Gray.)

This, about the largest and the most powerful of the Vultures of South Africa, is also the most common. Is usually one of the first, if not the first, to arrive about a carcass, which he nearly always succeeds in appropriating to himself, until such time as his voracious appetite has been appeased. Even hyenas and jackals have been known to give way to his formidable beak and talons. He is sometimes called the Black Vulture, or Swarte Aas-vojel, by the Dutch colonists.

GYPÆTUS FULVORIS. (Gml.)

Like the preceding species it is found nearly all over South Africa; but is more common to the south and east than in either Damara or Great Namaqua Land, where, in fact, it is rather sparingly met with.

VULTUR OCCIPITALIS. (Burchell.)

I have named this bird *V. occipitalis*, but am not quite certain that this is correct. However, be that as it may, he strongly resembles him.

Rarely met with in Damara Land, but is not uncommon in the Lake regions, as also to the south of it.

VULTUR ÆGYPTICUS. (Lath.)

This Vulture is not unfrequently called the "White Crow," and is found throughout Damara Land and Great Namaqua Land, more especially near the sea-coast. Acts as a scavenger, living often upon the filthiest offal. Frequents abandoned villages.

AQUILA BELLICOSA. (Smith.)

This noble Eagle is occasionally met with in the Lake regions, but is rare in Damara Land, and is one of the most formidable enemies to small quadrupeds, on which he seems chiefly to subsist. Mr. E. Layard told Mr. Andersson that a friend of his wrote to him to say that at the foot of a lofty tree, where a pair of these birds (it is presumed they were *Aquila bellicosa*) had built their eyrie, a person counted no less than *ninety-five heads* of the small Blue Back! and I have heard of districts where people are unable to keep a cat alive in consequence of the depredations of some large species of Eagle — undoubtedly the enemy was *Aquila bellicosa*. Usually found in pairs.

AQUILA BONELLII.

This very handsome Eagle is to be sparingly met with in Damara and Great Namaqua Land. Perches on rocks and trees, but, to the best of my belief, *roosts only* on the latter. Flight heavy, but when once risen to a certain height it soars powerfully. Food small quadrupeds.

AQUILA NAŒVIODES. (Cuvier.)

This is probably one of the commonest Eagles in South Africa. Have met with him in Damara Land, at Lake Ngami, Kuruman, the Karroo, and in most parts of the colony. In its habits it approaches the Vulture, as it is often found feeding on offal, earthworms, frogs, &c., but captures readily living prey, such as bustards, hares, &c. When young is of a sooty-brown appearance; at a little distance he looks quite black.

HALIAËTUS VOCIFER.

This handsome Osprey frequently enlivens with its presence the well watered but dreary regions about Lake Ngami and parts adjacent. On the Dzouga, the Zambesi, the Teoughé, and on the Okavango, the voyager

rarely passes a day without meeting with a pair or two. He presents a pretty picture when perched on some time-worn bough, with its varied and striking colours standing boldly out against a cloudless sky. When on the wing he utters loud cries of *Ou-ou-oulie*, hence its Sechuana name.

Lives chiefly on fish captured by itself, but is also said to rob the Pelican of its prey.

FALCO PEREGRINUS.

I have heard of this noble Falcon at Natal, and Mr. Andersson tells me that he once killed it in Damara Land; but on the whole it must be rare in South Africa.

FALCO BIARMICUS.

This powerful Falcon, in many respects so similar to that of the preceding species, is to be met with from the Cape Colony in the south to the Okavango on the north, and Lake Ngami to the east, and probably farther. Subsists chiefly on birds.

FALCO SUBUTEO (Pennant), OR HOBBY.

European naturalists were not aware until recently that this pretty Falcon was found *south* of the equator. Makes his appearance occasionally during the rainy season, when he arrives in company with the Common Kestrel, Orange-legged Hobby, *Timcunculus cenchris*, &c.

FALCO RUFICOLOIDES.

Very scarce. Met with, I believe, occasionally in the Lake regions and in Damara Land.

FALCO RUFICOLLIS. (Daud.)

Common throughout South Africa, but generally found more common at one season than another. Lives on small birds, mice, &c.

FALCO RUFICOLLIS. (Swains.)

The rufous-necked Falcon is a rare bird everywhere. Mr. Andersson, who is a keen observer and collector of birds, has only observed very few individuals in Damara Land.

FALCO CENCHRIS.

Rather scarce in Damara Land, and only seen during the rainy season.

FALCO RUFIPES (Bech.), OR ORANGE-LEGGED HOBBY.

This pretty Falcon is very abundant in Damara and Great Namaqua Land, also at the Lake, during the rainy season; but disappears entirely on the approach of the hot season.

During their stay in Damara Land their chief food consists of white ants, which abound during the wet season.

FALCO SEMITORQUATUS. (Smith.)

Very rare. I believe the Kalahari desert to be its true home. Usually seen in pairs.

FALCO ALUSICUS. (Daud.)

This handsome Hawk is rather common in Damara and Great Namaqua Land, and is one of the few species which remains throughout the year.

Its food consists of mice, lizards, ants, &c. It has a "skimming" flight, occasionally moving its large wings with slow and heavy undulations.

FALCO POLYZONOIDES. (Rüpp.)

Found sparingly in Damara Land. Is easily confounded with *Falco gabar*, which it strongly resembles at a distance. Migratory. Resorts to wooded districts, where he seeks his food, consisting of mice, lizards, white ants, grasshoppers, &c.

ACCIPITER GABAR. (Daud.)

This Hawk is not uncommon in many parts of South Africa. Abundant at times at the Lake and in Damara and Great Namaqua Land. Partially migratory. A few remain throughout the year. Prefers thick woods to open or partially-wooded districts.

ACCIPITER NIGER.

This is a scarce bird everywhere. Lives on small birds, mice, &c.

ACCIPITER TACHIRO.

This is a very common species in Damara Land, and at the Lake during the rainy season. The females seem to arrive before the males.

ACCIPITER MINULLUS.

Rare. Never, I believe, seen in Damara Land proper. Now and then found at the Lake and on the Zambesi.

FALCO MELANOPTERNI. (Sav.)

Pretty common at the Lake, but scarce in Damara Land. Feeds on fish, lizards, and mice.

MILVUS ÆGYPTICUS, OR YELLOW-BILLED KITE. MILVUS ATER, OR BLACK KITE.

Both these species are common in Damara Land during the rainy season. At first only a few individuals appear, but in a short time their numbers are legion. A true scavenger. Lives on offal, mice, lizards, white ants, &c. A very fearless bird. Has been known to snatch a piece of meat out of a person's hands.

CIRCUS SWAINSONII. (Smith.)

Migratory. Appearing in Damara Land towards the rainy season; but it is chiefly the young and the middle-aged birds, few adult individuals being observed. Not common; but in the Lake regions he is more frequently met with.

SECRETARIUS REPTILIVORUS (Daud.), OR THE SECRETARY.

Sparingly met with in Damara and Great Namaqua Land, and in the Lake country. Very common in the colony. Large open plains are their favourite resorts. When a pair have established themselves in any locality, they are said to drive away all others of the same kind.

The nest is very large, and occupied for several successive seasons if the bird is not disturbed, and is situated in some low bush. Lays two eggs of a dusky white, dotted profusely with light brownish. Red blotches at the obtuse end, and sparsely over the white of the shell.

STRIX LACTEA.

This is probably the largest species of Owl as yet found in South Africa. It has a considerable range, being of not unfrequent occurrence from the Orange river on the south (and even within the colony) to the Okavango on the north. To the eastward, it is met with in the Lake regions, and in some parts of the Zambesi valley.

It feeds on small quadrupeds, birds, bats, lizards, mice, &c. Hoots.

STRIX LEUCOTIS.
STRIX SENEGALENSIS. (Swains.)

These two species are common from Lake Ngami to the west coast, but especially the latter. This pretty little Owl possesses a most intelligent look, and hops about on its perch in the liveliest and briskest manner. Seems as much at home in broad daylight—nay, it sees its way through a dazzling sun—as at night. Both sexes are nearly alike in size and appearance.

STRIX SCOPS (Mont.), OR LITTLE HORNED OWL.

This is by far the rarest and the prettiest of the Owl tribe in South-West Africa. Mr. Andersson tells me that he had been very many years in Damara Land before he became aware of the existence of this species; and altogether he has only obtained three or four specimens. This was in the neighbourhood of his residence, Otjimbengue.

STRIX FLAMMEA.

This is a scarce species north of the Orange river, but widely distributed. It is likewise found throughout the Cape colony, and is often found breeding about the farm-houses. Differs very conspicuously from another species found near the Cape. It is much smaller, and of lighter tints. The species in question is *Strix capensis*.

LANIUS EXCUBITOR, OR GREAT GREY SHRIKE.

This fine Shrike is not uncommon in Damara Land at certain seasons.

LANIUS SUBCORONATUS. (Smith.)

This species is common in Damara Land. Is easily mistaken for *L. Collurio*, or the Fiskal of the Dutch colonists, at a distance, but is readily distinguished from it on a closer inspection. Thus the white front and streak over eyes so conspicuous in *L. Subcoronatus* is entirely absent in *L. Collurio*. The latter is not found in Damara Land proper.

LANIUS COLLURIO, OR RED-BACKED SHRIKE.

Sparingly met with in Damara Land.

LANIUS BACKBAKIRI.

This fine large Shrike is but sparingly seen in Damara Land, but becomes more numerous on proceeding southward. It in some manner likewise changes its habits. In Damara Land the Backbakiri Shrike is very shy and retired in its habits. At the Cape, where they may be seen in almost every garden, they are tolerably familiar, perching on the fences very freely, and giving utterance to a succession of ringing calls, something, it is said, like its name, or Băk-bā-kĭrĭ.

LANIUS BRUBRU. (Lath.)

Not uncommon from the Okavango to the Orange river, but nowhere common.

Restless: always found hopping about amongst the branches of trees searching for insects.

LANIUS TRIVIRGATUS? (Smith.)

If this Shrike be correctly named, it is sparingly met with in Damara Land, as well as parts adjacent. However, it may be less rare than I imagine, as it confines itself to dense thickets or low bush, where it hops about incessantly. No sooner have you caught a glimpse of it than it is gone from view.

LANIARIUS ATRO-COCCINEUS (Swains), OR BLACK AND CRIMSON SHRIKE.

This brilliantly coloured Shrike is pretty commonly dispersed over Damara Land and the Lake regions. Frequents dense thickets, as well as open wood. Searches for its food in all such localities, but is most partial to tangled brakes and thick bush.

Utters pleasant, clear, ringing notes. Builds a rough nest in the fork of a tree. Eggs not unlike the common European Butcher-bird of Europe.

LANIUS MELANOLEUCOS. (Nolis.)

Not uncommon in the Lake regions, but a scarce bird in the southern parts of Damara Land. Gregarious. At times very noisy, more especially if a bird of prey is approaching. Of such it entertains no fear, but warns the smaller birds of the enemy. The moment the "alarm-cry" of *Lan. melanoleucos* is sounded, every little fellow hurriedly seeks a place of safety.

MELACONOTUS SIMILIS (Smith), OR ORANGE-BREASTED BUSH SHRIKE.

I have never observed this bird west of Lake Ngami, but here it is not uncommon.

PRIANOPS TALACOMA. (Smith.)

Not seen in Southern Damara Land, but not uncommon in the more northern part. Observed also in the Lake regions, Zambesi, &c.

Gregarious. Usually found in secluded spots, where it hops restlessly from branch to branch in search of insects; they hunt quite systematically.

DICRUNIS MUSICUS. (Vieil.)

Common almost everywhere. Usually observed singly, or in pairs. Partially migratory. Very fierce. Will fearlessly attack any bird, no matter what size—the most powerful Falcon not excepted—and will not rest until it has expelled the intruder from its particular beat.

At times, and more especially during the season of incubation, he reminds one of some of the Song Thrushes of Europe, for, like them, he may be heard late at night, perched on the top of trees, uttering the most melodious notes, rather plaintive perhaps, but, at the same time, very soothing and varied. In the early morning, an hour or so before daybreak, he may also be heard carolling to his mate.

Builds, in the fork of a tree or branch, a nest composed of small twigs, and lined with tendrils, but no soft lining. Lays from two to four eggs of a whitish colour, besprinkled with small dark brown spots, somewhat clustered at the thicker end.

Usually catches his prey on the wing, and watches for it from some elevated perch whence a good view is to be obtained.

PLATYSTIRA ALBICAUDA. (Strickland.)

So far as my experience goes, this fine Fly-catcher is confined to the southern parts of Damara Land. I have found it most numerous on the open and elevated tracts between Otjimbengue and Rehoboth. Seeks its food both on the ground and amongst dwarf vegetation. Shy in its habits, and very restless. The moment it finds itself pursued, it makes for the thickest part of the tree or bush that may chance to be in its way, and thence make its escape on the opposite side to that on which its pursuer is stationed. But it rarely flies far, invariably settling on the nearest tree or bush, where it may deem itself secure; whence again it steadily pursues its tactics. Flight slow, and apparently labouring. Found in small flocks.

MUSCICAPA SENEGALENSIS. (Grul.)

Found pretty much distributed over Damara Land, also in the Lake regions. Usually seen in pairs about large trees, which it explores carefully and systematically in search of insects.

MUSCICAPA GRISOLA, OR SPOTTED FLY-CATCHER. (Pennant.)

Common almost everywhere.

MUSCIPETA CRISTATA? (Gml.)

Not observed in Damara Land, but not unfrequent in the neighbourhood of the Lake Okavango, &c.

TURDUS STREPITANS. (Smith.)

This Thrush is pretty common in Damara Land, as well as in the Lake regions. To a great extent migratory. Lives singly, or in pairs; rarely seen in flocks.

Feeds chiefly on insects, which he searches for at the roots of trees, amongst low bushes, old leaves, and decayed wood, &c. Scratches somewhat in the manner of a fowl, hence the Bechuanas call him "ground-scraper." Runs about with great celerity.

TURDUS CAPENSIS.

This is a very common bird everywhere. Always found in the neighbourhood of water. Gregarious, noisy. Chatters rather than sings.

Feeds on berries, insects, &c.

BRADORNIS MARIQUENSIS. (Smith.)

Common. Seems to me to partake more of the habits of the Fly-catchers, or Shrikes, than those of the Thrushes.

CRATEROPUS BICOLOR, OR BLACK AND WHITE CHATTERER.

Common throughout Damara Land, and many parts of Great Namaqua Land. Also observed at Lake Ngami. Gregarious. Numerous individuals

collect together. Creeps and glides through the mazes of tangled wood and dense thickets with wonderful ease and celerity. When alarmed, flies slowly from tree to tree. Flight feeble.

Incubates early. Have obtained fledged birds at the middle and end of November.

ORIOLUS GALBULA, OR GOLDEN ORIOLE. (Pennant.) ORIOLUS AURATUS (Vieil.), OR AFRICAN GOLDEN ORIOLE.

Both these species are to be met with during the rainy season, but they are chiefly young birds. The adults are rarely met with, and always excessively wary and shy in their habits, either keeping to the loftiest trees, or the most secluded thickets. At a distance the two species are easily confounded, and the young still more so.

SYLVIA ——(?)

A diminutive species. General colour of plumage greyish, with belly and vent light yellow. Found in small flocks. Partial to low trees and bushes, amongst which he searches most industriously for insects.

SYLVIA BREVICAUDA. (Rüpp.)

Scarce in Damara Land. On the Okavango and the neighbourhood, however, it is common.

PARISOMA RUFIVENTER. (Swains.)

Common in Damara and Great Namaqua Land.

SYLVIA ——(?)

Resembles the preceding species closely, both in general appearance, habits, and manners. Differs in being a smaller bird, and has no red on the under-tail coverts. Scarce, but rather widely distributed.

SYLVIA OBSCURA. (Smith.)

Scarce in Damara Land.

SYLVIA ——(?)

A species of reed warbler; not unlike the European *Salicaria arundinacea*, but much larger. Nearly always singing. Inhabits reedy localities. On the least approach of danger it immediately retires to the thickest parts of its reedy resorts.

DRYMŒCA CAPENSIS.
DRYMŒCA PECTORALIS. (Smith.)
DRYMŒCA FLAVICANS. (Vieil.)
DRYMŒCA CHINIANA. (Smith.)
DRYMŒCA LE VAILLANTI. (Smith.)
DRYMŒCA OCULARIS. (Smith.)

Very scarce in Damara Land. More frequently met with in the south of Great Namaqua Land. Frequents low bush.

DRYMŒCA FASCIOLATA. (Smith.)

Very rare in Damara Land.

DRYMŒCA TERRESTRIS. (Smith.)

PARUS NIGER. (Vieil.)
PARUS CINERASCENS. (Vieil.)

Both these species are found in the Lake regions, and in Damara Land; but, on the whole, scarce.

ERYTHROPYGIA PECTORALIS (Smith), OR THORN-CHAT.
ERYTHROPYGIA PÆNA.

Both these species are found in one part or another in Damara and Great Namaqua Land; also at Lake Ngami. I believe naturalists refuse to place these birds amongst the Chats, but I have, nevertheless, retained them in that genus, as I know of no other family of birds that they so nearly resemble in manner, habits, food, &c. *E. pectoralis* is, during the time of incubation, an exquisite songster; and it has, moreover, the power of imitating almost every other bird to be found in its vicinity.

SAXICOLA SPERATA. (Linn.)

This is the most common of all the Saxicolas in Damara Land. Extends thence right on to the Cape. Individuals found in the latter country are of a deeper tint.

Is very familiar with man. If not frightened, becomes so tame as to come into a person's house in search of food.

SAXICOLA RUBICOLA. (Bechst.)

Found at the Lake, and in the colony, but I have never observed it in Damara Land.

SAXICOLA FORMICIVORA. (Vieil.)

Sparingly met with in Damara Land, and thence to the northward. Rather a local species. Usually found in pairs.

SAXICOLA ALPINA.

This handsome Saxicola, or Rock Thrush, as it is indiscriminately called, is common in the south of Damara Land, and thence on to the Orange river. Very partial to localities that abound in rocks indeed, it is never found any distance from the hills, to which it immediately resorts on the least approach of danger.

Invariably seeks its food on the ground, but will also seize insects on the wing.

SAXICOLA HOTTENTOTIA. (Gml.)

Very common throughout Damara Land. Found also in the Lake regions, on the River Okavango, &c. Migratory. Reappears in Damara Land with the return of the rainy season. A local bird on the Zambesi. Though resembling the European species, it seems to me to be a smaller bird.

PETROCINCLA EXPLORATOR.

Found not uncommonly in the southern parts of Damara Land. In habits and manners this bird exactly resembles *Saxicola alpina*, and like it it is partial to localities of a rocky nature, as also to abandoned werfts.

Voracious feeder. Scarcely anything in the insect way comes amiss to him. Have even found scorpions in its stomach.

ANTHUS ———.

There is one, if not two, species of Pipets indigenous to Damara Land, but as yet I have not succeeded in satisfactorily identifying them. This is is also the case with the Wagtails (*Motacella.*)

ALAUDA SPLENIATA. (Strickland.)

Common in Damara and Great Namaqua Land, as also at the Cape.

ALAUDA NÆIRÆ. (Strickland.)

Found on the barren plains in the neighbourhood of Walvisch Bay, as well as a short distance inland, but not so far inland as Otjimbengue. A few individuals generally found in company.

ALAUDA ERYTHROCHLAMYS (?). (Strickland.)

I have found this Lark in but one locality, viz., in the neighbourhood of Walvisch Bay.

CERTHILAUDA SEMITORQUATA (?). (Smith.)

Not to my knowledge met with in Damara Land. First observed in Great Namaqua Land, where, in some localities, it is not unfrequent.

CERTHILAUDA GAMELA (?).

Like the preceding, only to be met with in some parts of Great Namaqua Land.

BRACHYONIS PYRRHONOTHA. (Vieil.)

Only observed near the Okavango.

PYRRHULAUDA LEUCOTIS. (Smith.)
PYRRHULAUDA AUSTRALIS.
PYRRHULAUDA VERTICALIS. (Smith.)

All these species are occasionally met with in Damara Land, but *P. leucotis* is the least frequent.

TEXTOR ERYTHRORHYNCHUS. (Smith.)

This bird is pretty common in Damara Land, as also at Lake Ngami. The natives there call it *Gushoa*. Gregarious.

Builds in lofty trees; nest composed of a cartload of sticks and twigs. Seems to prefer the giraffe-thorn to every other kind of tree.

PLOCEUS SANGUINIROSTRIS. (Linn.)
PLOCEUS SPLILONOTUS. (Vigors.)
PLOCEUS MARIQUENSIS. (Smith.)
PLOCEUS CUCULLATUS. (Swains.)

The two last-named are the only two species that can be said to be at all common in Damara Land. There are more species not yet satisfactorily identified.

EUPLECTES CAPENSIS. (Swains.)
EUPLECTES IGNICOLOR. (Swains.)

Neither species is common; the bird is, nevertheless, pretty widely distributed.

EUPLECTES LEPIDUS. (Swains.)

The Orange River constitutes the southern limit of this species. Great Namaqua Land (and probably the Kalahari Desert) is its head-quarters. In Damara Land proper it is of rare occurrence. Builds enormous umbrella-shaped grass nests, roofed over, and impervious to wind and rain. Their weight becomes at times so great as to carry away the branch or branches on which they are constucted.

EUPLECTES TAHA. (Smith.)

I should fancy rather rare in Damara Land, but I think more plentiful in the Lake country.

PLOCEPASSER MAHALI. (Smith.)

Damara Land proper would seem to be the real home of this fine Finch. Gregarious. Usually found far from water, and in the most wild and desolate spots. A number of individuals build on the same tree. Constructs large, rumbling, coarse grass nests near the extremities of the boughs; it being, no doubt, intended that both the situation and the roughness of material, and mode of construction, are to serve as safeguards against the insidious attacks of such wily enemies as snakes, weazels, &c.

VIDUA ERYTHRORHYNCHUS (Swains.), OR RED-BILLED WHIDAH.
VIDUA PARADISEA. (Cuvier.)

Both species found at times more or less commonly, though nowhere abundantly.

ESTRELDA BEUGHALA (?).

Not observed in Damara Land proper, but common in the Okavango valley, and in the Lake country.

PYTELIA MELBA. (Linn.)

Sparingly found in Damara and Great Namaqua Land. Their favourite resorts are low bush, and old abandoned werft fences. I think the Damaras call it the "Kraal," or Fence-bird.

ESTRELDA ASTRILA, OR "ROOI BEKJE."

Not uncommon in Damara and Great Namaqua Land. Found also at the Lake, and very abundantly near the Cape.

ESTRELDA GRANATINA, OR "BRAZILIAN" FINCH.
ESTRELDA ——, OR BLACK-EYED FINCH

Plumage black, and purple barred with black.

Both species found, not unfrequently, either in the Lake country or in Damara Land.

AMADINA SQUAMIFRONS.

Common throughout Damara and Great Namaqua Land, as also in the Lake regions, and at the River Okavango. Found in small flocks. Food: grass-seeds and insects, which it chiefly seeks for on the ground. Comparatively tame. Will take up their abode close to man.

Breeds late. Builds large grass-nests (on low thorny bushes), softly and luxuriantly lined. Serve them in winter as a refuge against the inclemency of the weather. Several individuals occupy one nest, probably members of the same brood.

AMADINA ERYTHROCEPHALA. (Smith.)

Nowhere common; but has a wide range, being found in Damara Land, in the Lake country, and Kuruman, and, probably, in many other localities.

CRITHAGRA CHRYSOPYGIA, OR YELLOW-RUMPED BULLFINCH.
CRITHAGRA HARTLAUBI (?).

Brown, with yellow rump. Common in the neighbourhood of the Okavango, but very scarce. This applies also to *Crithagra chrysopygia*.

EMBERIZA FLAVIGASTER. (Rüpp.)

Never saw it in Southern Damara Land. North of this not uncommon.

PASSER ARCUATA, OR CAPE SPARROW.

Exceedingly common almost throughout South Africa. Resembles the European House-sparrow in habits and manners.

PASSER MOTILENSIS.

Only observed at the Lake and in the Colony.

COLIUS MACRURUS. (Linn.)

Scarce in Damara Land.

COLIUS ERYTHROPUS. (Gml.)

This species is pretty abundant in most parts. Gregarious. At the Cape this bird is sometimes called Mäusevogel, or Mice-bird, probably on account of its plumage, which, in some parts, is soft and downy, more, in fact, like fur than feathers. Moreover, they have a way of climbing, using their bill as a hand, reminding one of the gliding and creeping of a mouse.

CHIZOERHIS CONCOLOR. (Smith.)

This is one of the commonest birds in Damara Land, as also in the Lake country, in the Zambesi and Okavango valleys. Is partial to wooded localities with lofty trees. In its habits it strongly resembles the Coolie-birds, it climbs and flies not unlike them. The Damaras call it the *Ongŏrŏ oroquēnă*, from a something in their cry like the sounding of the latter word.

LAMPROTORNIS BURCHELLI. (Smith.)

Abundant at Lake Ngami, and in some parts of Damara and Great Namaqua Land.

LAMPROTORNIS PHŒNICOPTERUS. (Swains.)

This is a very common species everywhere. Gregarious. Resembles the European Starling in habits and manners. Builds like it in the hollows of trees. Eggs similar, but scarcely of so deep a tint.

Feeds on seeds, berries, insects, &c.

LAMPROTORNIS FULVIPENNIS. (Swains.)

Common in Damara Land and the Lake regions. Gregarious. Partial to rocky localities. Frequents the water morning and evening. Flight sometimes high, and of some extent.

LAMPROTORNIS LEUCOGASTER. (Swains.)

Common in the Lake regions, and in Damara Land, but here only as a migratory bird. A few individuals, however, probably remain thoughout the year, for I have observed such long after the general migration is over. The male arrives first, and, so far as I have observed, associates but little with the female, who differs so marvelously from him.

GRACULA CARUNCULATA. (Gml.)

Appears in Damara Land at the beginning of the rainy season, and generally leaves again for lower latitudes upon the approach of the dry weather. Congregates in immense flocks. Young birds very different from the adults.

BUPHAGA AFRICANA.

Occasionally met with on the cattle, whose hides they examine for insects.

CORVUS CAPENSIS.

A very local bird, but not uncommon. Found more abundantly in Great Namaqua Land, and in the south of Damara Land. Noisy. Shy. Assemble in small flocks. Utters harsh, choking sounds.

CORVUS SCAPULATUS. (Daud.)

Common in most parts, yet a local bird. A true scavenger. Some of its notes, more especially on a raw misty morning, are absurdly ridiculous, and singular.

DENTROCATUS NAMAQUENSIS (Licht.), OR DOUBLE-MUSTACHED WOODPECKER (Le Vaillant).

Sparingly met with in Damara Land; more frequent in the Okavango valley, and also, probably, at the Lake.

CAMPETHERA ABINGONII. (Smith.)

Not abundant anywhere in Damara Land, and probably not seen in Great Namaqua Land.

PICUS FULVISCAPUS. (Licht.)

This pretty little Woodpecker, though it cannot be said to be abundant, is the commonest of all those found in Damara and Great Namaqua Lands. He is also common in the Lake regions, as well as in the Cape Colony. Usually observed in pairs, and amongst woods containing small trees.

POGONIAS LEUCOMELAS. (Bodd.)

This peculiar, but prettily marked bird, is to be found sparingly from the Okavango river, to the confines of Great Namaqua Land. And though I do not remember to have met with it in the latter country, it is nevertheless not unlikely to be found occasionally, more especially in those parts intersected by the Great Fish River. Likewise found at the Lake, and on the Zambesi. The Makololo calls it the *Hambula*, and is said to utter a peculiar and loud sound, something like that produced by a smith's hammer on an anvil, nicely modulated.

Feeds chiefly on fruit.

BUCEROS CORONATUS (Shaw), OR CORONATED HORNBILL.

Not very abundant in Damara Land. Usually found singly, or in small flocks. When alarmed perches on the top of trees, whence he again takes his departure on the least sign of danger.

BUCEROS FLAVIROSTRIS (?)

This is the commonest species in Damara Land, and, unlike the rest, comparatively tame. During the heat of the day they perch on the topmost boughs of trees, whence they carry on a kind of subdued chattering, now and then rising into louder strains; at times you would think you were amongst a lot of yelping puppies.

BUCEROS HASTATUS. (Cuvier.)

By no means common in Damara Land, nor at the Lake. To some extent gregarious. Utters occasionally, when on the wing, short, piercing cries. Perches about half way up on trees, rarely on the topmost boughs. Excessively shy. It is only during the very hottest part of the day, when a

person has any chance with him. Like all the other species found in these parts, he seems to suffer very much from the heat.

BUCEROS ERYTHRORYNCHUS.

This species is, to the best of my belief, not an inhabitant of Damara Land proper, but they are common at the Okavango, and for some distance to the south of it. I have also obtained specimens from the Lake regions.

BUCEROS LIMBATUS? (Rüpp.)

The general colouring (the bill excepted) of this bird is not unlike *Buceros nasutos*, only darker. The bill, instead of being black, is red, and more elongated. Have only seen specimens from the Lake.

PSITTACUS RÜPPELLI. (Gray.)

Common in Damara Land. Rather shy, and difficult of approach. Rarely found far from water. Usually observed in flocks of about half a dozen individuals. Flight quick and sharp, but do not move far at a time.

PSITTACUS MEYERI. (Rüpp.)

Found plentifully at the Lake, and in the north of Damara Land. In habits and manners similar to the preceding species.

AGAPOMIS ROSEICOLLIS. (Vieil.)

This small but pretty Parrot is very generally distributed over Damara and Great Namaqua Land; found also on the Okavango and at the Lake.

Does not make a nest of their own, but takes possession of nests belonging to other birds, such as *Loxia socia*, *Plocapasser mahali*, &c.; but whether they forcibly eject the original owners, or merely make use of voluntarily abandoned nests, I cannot say. But be this as it may, they are found incubating side by side of the strangers.

Lays a number of white eggs, not unlike those of Woodpeckers.

PROMEROPS ERYTHRORYNCHUS; OR RED-BILLED PROMEROPS.

Not an uncommon bird in Damara Land, and in the Lake regions, and in parts adjacent to the north. Naturalists are under the impression that

there are two species of this bird, the black-billed and the red-billed; but I have every reason to believe that they labour under an illusion, and that the supposed distinctions are merely varieties attributable to age. Dr. Kirk speaks of it in the Shua valley.

PROMEROPS NIGER.

Sparingly found throughout Damara and Great Namaqua Land; rarest in the latter. A true creeper in habits and manners. Usually seen in pairs, or small flocks.

NECTARINA BIFASCIATA. (Shaw).

Not uncommon in Damara Land, and in the Lake regions.

NECTARINA FUSCA (Vieil.), OR WHITE-VENTED SUN-BIRD.

The most common species in Damara and Great Namaqua Land. Remains throughout the year.

NECTARINA SENEGALENSIS.

Not seen in Damara Land proper, but is common in the Okavango valley, and in the Lake country.

UPUPA MINOR (Shaw), OR HOOPOE.

Very abundant all over the country during the rainy season, but disappears with the return of the wet weather, a few individuals, perhaps, remaining throughout the year.

The Hoopoe chiefly seeks its food on the ground, but will also watch for and pounce upon its prey from a branch, like the Bee-eater. Flesh dark coloured, and rather unpalatable.

CUCULUS CANORUS (Pennant), OR COMMON CUCKOO.

Occasionally met with.

CUCULUS LINEATUS. (Swans.)

Pretty common during the rainy season. Easily confounded with *Cuculus canorus*.

CUCULUS GLANDANUS, OR GREAT SPOTTED CUCKOO. (Edwards).

This handsome Cuckoo is also a common species during the wet season. Presents some striking varieties of plumage.

CUCULUS CLAMOSUS.

I do not remember to have met with this sombre-coloured species in Damara Land, and is but sparingly observed in the Okavango valley; found also at the Lake.

CUCULUS EDOLIUS. (Cuvier.)

This is about the most common Cuckoo, and the first to arrive. Swift f flight, and quick in its movements.

CUCULUS LE VAILLANTII. (Swains.)

Scarce everywhere.

CUCULUS ÆGYPTICUS.

Found abundantly in the Lake regions, but not to the westward. Its favourite resorts are reeds, but is found as well in forests, where it perches on the highest trees. Flight clumsy. Feeds on grasshoppers, &c.

INDICATOR MAJOR (?)

CORACIAS ABYSSINICA. (Lath.)

This species is tolerably plentiful in Damara Land, at the Lake, and in the Zambesi valley. Habits and food very similar to that of *Coracias nuchalis*. Rather shy.

CORACIAS PILOSA.

CORACIAS NUCHALIS. (Swains).

Tolerably common in Damara Land. Usually found in pairs. Its flight is similar to that of the European Roller. When on the wing it makes great noise, uttering rapidly harsh, discordant notes. Seeks much of its food on the ground, not going about in search of it, but watching for its appearance from some elevated perch, just like a Butcher-bird. Almost omnivorous. Very useful; for it feeds largely on centipedes, arachnidas, tarantulas, and other obnoxious insects, &c.

MEROPS APIASTER (Pennant); OR BEE-EATER.
MEROPS HIRUNDINACEUS. (Swains. et Lath.)

This is the commonest species of Bee-eater in Damara Land, where a few remain throughout the dry season. Also abundant in Great Namaqua Land, and the Lake country.

MEROPS ERYTHROPTERUS (Lath.); OR LITTLE FORKED-TAILED BEE-EATER.

This exquisite and diminutive species does not come as far as Damara Land, but is common in the Lake district, and in the Okavango Valley.

We now come to a very interesting and richly-coloured class of birds, the Kingfishers; but, from their shy and retired habits, little is as yet known of those found at the Lake regions, nor is the number of species ascertained; but the following are some:—

ALCEDO GIGANTEA.
ALCEDO CYANOSTIGMA. (Rüpp.)
ALCEDO BICINCTA. (Swains.)

The first-named is rare, the second and third common, more especially *Alcedo cyanostigma*, which, with its liveliness and beauty, serves to enliven almost every creak and winding of a stream.

HALCYON DAMARENSIS. (Strickland.)

This, as the name implies, is a species more or less peculiar to Damara Land. It bears a striking resemblance to the Abyssinian species of Rüppell (*Dalcelo pygmæus*), but is larger.

Very sparingly met with in Damara Land, and parts adjacent. Never seen near water. Partial to localities recently injured by fire, probably from finding an abundance of dead insects.

It is very possible that its congener, the *Dalcelo pygmæus* (Rüpp.) (*Alcedo striolata* of Licht.), is found in the Lake regions, for Dr. Kirk speaks of it as common in the Zambesi valley.

HIRUNDO RUPESTRIO.

Common throughout most parts. Is the only species that remains in Damara Land throughout the year, although the greater portion migrate. Breeds about low, calcareous rocks, and clay banks.

HIRUNDO RUSTICA.

Pretty common in some parts of Damara Land, more especially near the sea-coast. Very numerous in the neighbourhood of Walvisch Bay.

HIRUNDO MONTEIRI. (Hartl.)
HIRUNDO DOMIDIATA. (Sundevall.)

Tolerably common in Damara Land in the rainy season. Arrives about November, but does not stay any great length of time.

HIRUNDO CAPENSIS.

By no means common in Damara Land.

CYPSELUS APUS. (Flem.)
CYPSELUS LEUCOTHEA.

Pretty common in most parts of the country.

CAPRIMULGUS DAMARENSIS. (Strickland.)

Pretty common in Damara and Great Namaqua Land.

CAPRIMULGUS LENTIGONOSUS.

Rather scarce.

CAPRIMULGUS NATALENSIS.

CAPRIMULGUS PECTORALIS. (Vieil.)

Not uncommon in some parts.

COLUMBA RISONUS (?). (Linn.)

Found very abundantly throughout the length and breadth of Damara and Great Namaqua Land. Seeks its food (seeds) on the ground. When flushed suddenly, the flock causes a great noise with their wings. Excellent eating.

Builds in small trees. Constructs a rough nest of a few twigs, without any kind of lining. Lays two eggs of a pure white colour.

COLUMBA AFRA. (Tennant.)

Not found in the south of Damara Land, but in the middle and northern parts not uncommon.

Like the Ring-dove it constructs a most primitive nest, just a few rough sticks, loosely and badly put together. Lays two eggs of a pure white colour.

TURTUR ERYTHROPHRYS (?) (Swains.), OR RED-EYED DOVE.

Is confined to the Lake regions.

COLUMBA GUINEA. (Edm.)

Common in most parts. Congregates in immense flocks, at the end of the rainy season, or in March, April, May, &c.

COLUMBA CAMBAYENSIS.

Next to *Columba risorius* the most common Dove in Damara Land, also found in most parts adjacent.

COLUMBA CAPENSIS. (Lath.)

This exquisite little Dove is common in most parts of Damara and Great Namaqua Land.

Constructs its nest on low bushes, and with a trifle more care than the other members of the *Columbinæ* family.

PTEROCLES BICINCTUS. (Temm.)

Very abundant in Damara and Great Namaqua Land. Frequent the water a little before dusk. Congregate in immense flocks. Feed chiefly on berries and seeds. Flesh tough, and not palatable.

PTEROCLES TACHYPETES, OR PIN-TAILED GROUSE.

This is also a species of "two-banded" Grouse; but instead of the ring of the breast being black, as in the preceding, it is of a deep, dark, reddish-brown. Like it, congregates in immense flocks, but, unlike it, frequents the water, in the morning about eight or nine o'clock.

PTEROCLES VARIEGATUS. (Burchell.)

This very handsome Grouse is also pretty common in some parts of Damara Land, and the Lake regions.

FRANCOLINUS GARIPENSIS.

Met with abundantly on the high table-lands of Damara and Great Namaqua Land. Found always in flocks or coveys, varying from three or four to as many as twelve or thirteen individuals; six to eight, however, seems to be the most common. Found on grassy slopes with dwarf bush. Lie close. Affords excellent sport.

FRANCOLINUS ——, OR RED-LEGGED AND RED-BILLED FRANCOLIN.

This is essentially a Damara bird. Abounds near almost every water-course (periodical) of any pretension. Rarely found any distance from water, but not, as it would appear, from necessity. Their feeding time is early morning, and in the cool of the afternoon. Rests during the heat of the day. Lives much on trees. Always roosts in such situations. Never found very far from cover. Rarely takes to the wing, unless very hard pressed. Runs with extraordinary speed.

Its notes are loud, harsh, and querulous, and may be heard at a great distance, a kind of hysterical laugh. Lays large number of eggs of a dusky-yellowish colour.

FRANCOLINUS NATALENSIS.

This species is restricted to the Lake regions, and to parts adjacent, south and east. Never observed it in Damara or Great Namaqua Land.

FRANCOLINUS SWAINSONII. (Smith.)

Only observed in the middle and northern parts of Damara Land. Common in the Okavango valley. Utters a harsh calling note, more especially at night and early morn.

TURNIX LEPURANA. (Smith.)
COTURNIX DACTYLISONANS. (Meyer.)

Both these species are more or less common at certain seasons.

TURNIX —— (?)

This is a large species of Quail found by Mr. Chapman at the Lake, but

which I do not remember to have met with in either Damara or Great Namaqua Land. Male:—"Breast and throat black. Cheeks white. Crescent-shaped white streak from ears under the throat, another passing above the eyes to back of head. Under the wings pale grey or ash-coloured. Belly feathers rich brown, with black down the middle. Back blackish-brown, each feather having a yellow stripe down the middle, and barred with three yellowish transverse bars. Across quill feathers pale brown. Wing coverts brown. Quill shafts white, and barred several times across. Eyes reddish-brown, or hazel. Legs dull yellow. Bill black. Crown of head black, parted in the middle with yellowish feathers tinged with brown. Female:—Very similar to male, but of lighter tints. No black on the breast or throat. Bill brown horn-colour. Legs dull yellow. Crown of head dark brown, parted with pale stripe as male. Breast feathers and belly uniform pale reddish-brown, barred, getting paler towards the throat, which has an incomplete black crescent from under each eye."

Length of bill to tail about 8 inches.

NUMIDIA ——, OR COMMON WILD GUINEA-HEN.

Very common throughout South Africa.

"Highly gregarious during the dry season, several hundred individuals being found in one flock. At this period they feed far from water, going during the day over fifteen to twenty miles before they return to water. They feed on grass, seeds, insects, &c. Like fowls they lay about thirty eggs, dull white, with very pale-grey speckles. Are easily domesticated. Utter a rather sharp, discordant, metallic sound, something like a rapid succession of blows on iron. Roosts in mimosas or other tall thorn trees for fear of leopards, &c. Sometimes they do without water at midday; rest under the shade of trees; and when the greatest heat is past they begin to feed towards the water, which may often be found by following them, though not always successfully."

OTIS KORI, OR THE GREAT AFRICAN BUSTARD.

This splendid bird is found in most parts throughout South Africa. Is found throughout the year in Damara Land. Partially migratory.

Is said at times to attain to an enormous size. Personally I have never seen it beyond 30 lbs. weight, but I have been assured on good authority that in some parts of the Orange River Free State, and the Trans-Vaal Republic he is shot weighing no less than 60 lbs. to 70 lbs.! But may it not be a different species? Excellent eating.

Usually found in pairs, but occasionally three or four congregate together.

Spread of wings, 8 ft. 4 inches.

OTIS RUFICRISTA.

Not uncommon in Great Namaqua Land, and in the south of Damara Land, but disappears rapidly in proceeding north of these parts.

Its favourite resorts are open localities thinly covered with dwarf bush. Called sometimes the Silent Koran, in contradistinction to the following species.

OTIS AFROIDES.

This is probably the most common Bustard in either Damara or Great Namaqua Land. On taking wing the male becomes outrageously noisy. Will rise nearly vertically, and to a great height, descending often as abruptly. Great nuisance to the hunter, who is frequently done out of his quarry by their sudden noisy presence.

OTIS ——.

This fine species is of a pale bluish-purplish colour beneath and on the neck, with a black stripe down the throat and at the back of the neck. Common in Great Namaqua Land, as also in some open localities in the west and south of Damara Land. Broken ground with a scanty vegetation seems its favourite resorts. When disturbed utters a succession of quick harsh notes. Flight low and rapid, but of short duration.

OTIS ŒDICEREMUS, OR THICK-KNEED BUSTARD. (Pennant.)

Common in most parts. Partially migratory. Partial to broken ground sparingly covered with dwarf bush. Comparatively tame and easy of approach. Seems to be on the move chiefly at and after dusk.

CURSORIUS CHALEOPTERUS (Temm.), OR VIOLET-TINGED COURIER.

Arrives at times (during the rainy season) in Damara Land in great numbers. Found in small flocks of from a few to a dozen individuals.

Is easily mistaken for the young of a species of fine red-legged Plover at a little distance. Indeed, for some time I passed it over as such.

Runs with great swiftness. When pursued only takes to the wing as a last alternative. Partial to cover with occasional openings.

CURSORIUS BICINCTUS. (Temm.)

Not uncommon in parts of Damara and Great Namaqua Land. Some seasons plentiful in the neighbourhood of Otjimbengue. Gregarious. Comparatively tame.

GLAVEOLA TORQUATA (Pennant), OR COLLARED PRATINCOLE.

Not uncommon in the Lake regions, but scarce in Damara Land.

CHARADRIUS ARMATUS. (Burchell.)

Common from Lake Ngami to the west coast, but only found near water. The Bechuanas call it "*Setula tsipi*," that is, Iron-hammer or Blacksmith. When disturbed it rises with short, rapid jerks of the wings, but does not fly far. On the wing it is very noisy.

CHARADRIUS ——, OR RED-LEGGED PLOVER.

Common in various parts of Damara Land, at the Lake, on the Okavango, and Teougé, &c. Very plentiful at Otjimbengue, where a flock or two are generally found throughout the year.

As a rule, it seeks its food away from water, and is often found in the most arid localities; but in every other respect it strongly resembles *Charadrius armatus*. Very noisy on the wing.

CHARADRIUS HIATICULA (Pennant), OR RINGED PLOVER.

Rather scarce, but at Walvisch Bay it may occasionally be seen more numerously.

CHARADRIUS CANTIANUS (Bewick), OR KENTISH PLOVER.

At some seasons abundant in both Damara Land and in the Lake regions. Gregarious.

CHARADRIUS NIVIFRONS (?). (Strickland.)

Never seen inland, but common at Walvisch Bay, and on many other parts of the coast.

In winter, plumage (upper part of) is a deep rich brown cream-colour.

Lays two eggs of a yellowish-brown colour, with numerous irregular dark lines, brown spots, and streaks.

CHARADRIUS DAMARENSIS (?). (Strickland.)

Never common, but at times small flocks may be seen about the moist places in periodical river courses. Very shy.

HIATICULA ZONATA. (Swains.)

Found both at inland waters and on the sea-coast. Not unlike the Ringed Plover at a little distance.

TRINGA CALIDRIS (Pennant), OR SANDERLING PLOVER.

This is one of the commonest species on the south-west coast. Is found inland as well, but sparingly. Rarely seen away from the immediate neighbourhood of the water, along the edge of which it hunts for insects and sea-worms.

TRINGA SQUATAVOLA (Pennant), OR GREY SAND-PIPER.

Very common on the coast, but not often met with inland. I have never seen this bird in such dark plumage as represented in European specimens at a particular season; otherwise resembling our species. Flesh palatable.

PARRA CAPENSIS (Smith), OR LESSER AFRICAN JACANA.

PARRA AFRICANA, OR LARGE AFRICAN JACANA.

Both are rare species in Damara Land, but are common on the Okavango, Teougé, at the Lake, Botletlie, Zambesi, &c.

TRINGA INTERPRES (Pennant), OR TURNSTONE.

Never seen inland, but occasionally found plentiful on the coast and on the islands, where it breeds.

VANELLUS LATERALIS. (Smith.)

This peculiar and large species is only found in the immediate neighbourhood of water. Not uncommon in the Lake regions, and on the rivers Okavango and Teougé.

HÆMATOPUS NIGER, OR OYSTER-CATCHER.

Found on the mainland, as well as on the islands of the west coast, where it also breeds.

ARDEA CINEREA (Pennant), OR THE COMMON HERON.

Rather common on the sea-shore along the south-west coast, but is rarely seen much inland. Shy, and difficult of approach.

ARDEA ATRICOLLIS. (Smith.)

Sparingly met with in Damara and Great Namaqua Lands, and about the lagoons on the coast, as far as the mouth of the Orange river. Perches on trees where such are within reach.

Dr. Kirk found this species not uncommon on the rivers and lakes of the Zambesi region.

ANTHROPOÏDES STANLEYANUS, OR STANLEY CRANE.

This bird, usually in pairs, is occasionally met with during the rainy season, but migrates north and east as soon as the rain-pools have dried up.

Weighs 12lbs., and measures across wings (from tip to tip) about 7 feet.

ARDEA PAVONIA (Linn.), OR YELLOW-CRESTED CRANE.

Occasionally met with in the Lake regions, on the Zambesi, Zouga, Teougé, Okavango, and has also been seen in Ondonga.

Spread of wings rather more than 6 feet.

ARDEA ——, OR WATTLED CRANE.

Met with sparingly in Damara Land during the rainy season. Is more plentiful in the well-watered regions of the Lake and the Zambesi valley.

ARDEA GARZETTA (Pennant), OR EGRET HERON.

Pretty common in the Lake regions, but scarce in Damara Land.

Am not sure that the great White Heron is here, but there is a species strongly resembling it.

ARDEA RALLOIDES. (Flem.)

Not uncommon, I think, in the Lake regions.

ARDEA GUTTURALIS. (Smith.)

Rare.

ARDEOLA LEUCOPTERA, OR INDIAN PADDY-FIELD HERON.

A white-bellied, buff-coloured species of Heron. Very common in the Lake regions, and in the Zambesi valley. Also more frequent in Damara Land than the little Egret.

ARDEA ——.

A dark, purplish-looking species.

Never observed it in Damara Land, but common on the Lake watersheds.

ARDEA GOLIATH.

Not a common bird, but widely distributed. Thus, they may be seen on the rivers Okavango and Teougé, Botletlie, Zambesi, &c. Shy.

ARDEA MINUTA (Pennant), OR LITTLE BITTERN HERON.

To my knowledge, scarce about the Lake and its watersheds.

SCOPUS UMBRETTA.

Pretty generally distributed over South Africa. Frequents Damara and Great Namaqua Lands during the wet season. A few even remain throughout the year.

The Dutch call him Hammerkopf, or Hammerhead, probably from some similarity to that tool.

ARDEA CICONIA (Mont.), OR WHITE STORK.

Pretty common at the Lake and its watersheds. Frequents Damara Land occasionally during the wet time of the year.

CICONIA ABDIMII. (Ehrenberg et Hemprich.)

Occurs very abundantly in Damara Land during the rainy season. Is one of the great enemies to that African scourge, the locust, indeed, they seem to prefer this kind of food to any other.

CICONIA MARABOU (Vigors), OR ADJUTANT.

Abounds at the Lake and its watersheds. Seen occasionally in Damara Land during the rainy season. Great fellow for dead elephants.

PLATALEA LEUCORODIA (Pennant), OR THE SPOON-BILL.

An occasional visitor to Damara Land. At the Lake and on its rivers it is found sparingly throughout the year.

GERONTICUS HAGEDASH (Fleming), OR THE GLOSSY IBIS.

Pretty common in the Lake regions. Perches on trees. Grows very fat. Affords good eating.

IBIS ——, OR THE WHITE IBIS.

Both these species are found at the Lake and the environs. Never saw them in Damara Land.

NUMENIUS ARQUATA (Pennant), OR THE COMMON CURLEW.

NUMENIUS PHÆOPUS (Pennant), OR WHIMBREL CURLEW.

Both these species are indigenous to Damara Land, and parts adjacent, but the last-named is scarce. The Curlew is found both on the coast and inland.

TOTANUS GLOTTIS (Fleming), OR THE GREENSHANK.

This fine species is common in Damara and Great Namaqua Lands, and, almost as a matter of course, about the Lake waters. Gregarious; in small flocks; shy.

TOTANUS ——.

Somewhat resembling the Greenshank, but much smaller and more delicate. Less seen on the coast than inland, at small running springs or marshes. Have frequently shot them at Otjimbengue.

TOTANUS GLAVEOLA (Pennant), OR WOOD SANDPIPER.

On the whole, scarce in Damara Land, but now and then flocks are met with at small inland springs. Also observed in the Lake regions and in the Zambesi valley.

RECURVIROSTRA AVOCETTA (Pennant), OR THE AVOSET.

Sparingly observed in the lagoons on the south-west coast, but less frequent inland. Gregarious. Not very shy where not disturbed.

CHARADRIUS HIMANTOPUS (Pennant), OR BLACK-WINGED STILT.

A rare bird in Damara Land, but not uncommon on all the watersheds to the north and east of it.

PHÆNICOPTERUS ERYTHREUS. (Verreaux.)
PHÆNICOPTERUS MINOR. (Geoff. St. Hilaire.)

Both these species are indigenous to Damara Land and parts adjacent, and are common in some inland localities, such as Lake Ngami, Onondova, &c. The larger species is the commoner of the two on the sea-coast. Breed inland, and, possibly, in some of the large undisturbed lagoons north of Walvisch Bay. For a further notice of these fine birds I beg to refer the reader to an account of them in the "Ibis," for 1865, p. 64.

TRINGA PUGNAX (Pennant), OR THE RUFF.

Occasionally met with; usually in small flocks.

SCOLOPAX GALLINAGO (Pennant), OR COMMON SNIPE.

I have only observed this Snipe in one single locality, or at Omanbondè, in Damara Land.

RHYNCHIA CAPENSIS, OR GOLDEN SNIPE.

This is a very common bird almost everywhere. Like the true Snipe, they lie close, but their flight is heavy and comparatively slow. Flesh palatable.

NUMENIUS PYGMÆUS (Pennant), OR PIGMY CURLEW.

The commonest Tringa at Walvisch Bay, and on the south-west coast in general, but only sparingly observed inland. Always found in considerable flocks. Flesh rank.

TRINGA MINUTA (Pennant), OR LITTLE SANDPIPER.

Another very common species inland, as well as on the coast. Good eating.

CREX BAILLONII (Selby), OR BAILLON'S CRAKE.

This pretty little Gallinula is an inhabitant of the few marshes existing in Damara Land. At Omanbondè I found it plentiful. Breeds there. Found the nest repeatedly. It contained as many as seven eggs of an enormous size, and of a dull olive-brown colour. Common in the marshy districts of the Lake, the rivers Teougé, Okavango, Botletlie, &c.

GALLINULA DIMIDIATA. (Temm.)

I have only observed this Gallinula at Omanbondè. Shy and retired in its habits.

GALLINULA CHLOROPUS (Pennant), OR THE MOOR-HEN.

The commonest species of Gallinula, probably, in this part of the world.

FULICA CRISTATA.

Common in almost every marshy locality.

FULICA PORPHYRIS. (Linn.)

Found abundantly in the Lake regions, but very sparingly in Damara Land, probably from want of suitable localities. Said to be common on the Zambesi.

RALLUS STRIATUS (?).

Not unfrequent in large, marshy localities.

RALLUS NIGER. (Lath.)

Rare in Damara Land, but not unfrequent on the Okavango, Teougé, Lake Ngami, Botletlie: it is very shy and retired in its habits, and consequently very little can be seen of it.

ANAS EGYPTICA (Bewick), OR EGYPTIAN GOOSE.

This is the commonest Goose on the waters of Damara and Great Namaqua Lands, where it remains throughout the year. Usually found in pairs or small flocks.

Flesh very dark-coloured and coarse tasted; more like tough beef than game.

ANSER ——.
SARKIDORNIS AFRICANA.

This very handsome species is common in Damara and Great Namaqua Lands during the rainy season; but they take their departure on the drying up of the temporary rain-pools. Found also at the Lake, Botletlie, &c.

ANSER ——.
NETTAPUS MADAGASCARIENSIS.

This diminutive species is not uncommon at the Lake. Never saw it in Damara Land; nor have I observed it on the Okavango.

ANSER GAMBENSIS.

Never, to the best of my knowledge, observed this noble Goose in Damara Land. Not uncommon on the Botletlie, Teougé, and the Okavango.
The male bird weighs 15 lbs.

ANAS CAPENSIS.

This is almost a stranger to Damara Land, but is met with to the north and east of it.

ANAS SPARSA. (Smith.)

An occasional visitor to Great Namaqua Land. It is probably found in the Lake regions. Dr. Kirk says it is sparingly met with in the Zambesi valley.

ANAS FLAVIROSTRIS. (Smith.)

This fine Duck is somewhat common on the Lake and its rivers. Never saw it in Damara Land, but very common near the Cape, and in the colony in general.

ANAS ERYTHRORHYNCHA. (Gml.)

This is the commonest species in Damara and Great Namaqua Lands, and is one of the few Ducks who remain there throughout the year. Is common also on most of the waters to the north and east of it.

QUERQUEDULA HOTTENTOTTA. (Smith.)

Rare. Found more of them at Omanbondè than elsewhere.

CLANGULA LEUCONOTA. (Smith.)

This is another comparatively scarce species in Damara Land.

DENTROCYGNA VIDUATA, OR WHISTLING TEAL.

This Duck is exceedingly common in the Lake regions, and on the river Okavango. On the latter, they are seen most abundantly during the annual inundations, when much of the usually dry land that flanks this stream is converted into swamps.

FULIGULA NYROCA.

I only once obtained a few individuals of this fine Duck; from which I infer it is only an occasional straggler in Damara Land.

PODICEPS CRISTATUS (Pennant), OR THE GREAT-CRESTED GREBE.

Only observed this handsome species on the sea-coast, and there by no means numerously. Easily approached in deep water, where he usually endeavours to escape by diving; in shallows, difficult of approach within killing distance, taking wing immediately on finding himself in danger.

There is another species on the coast, but I have not satisfied myself as its identity.

PODICEPS MINOR (Pennant), OR THE LITTLE GREBE.

Rather scarce, but widely distributed.

PHALACROCORAX AFRICANUS.

Found only on the inland waters. Common enough in many parts of the Lake Ngami watersheds.

PHALACROCORAX ——.

Upper plumage darkish. Greater part of under yellowish-white. This large species is not uncommon at Walvisch Bay, but never found in any extraordinary numbers. Usually they keep apart from the common species. Rather shy.

PHALACROCORAX ——.

Adult bird glossy black, with throat saffron-yellow. Irides sea-green. Exceedingly abundant at Walvisch Bay and all along the south-west coast, where he is one of the chief depositors of guano. In December this species leaves Walvisch Bay for their breeding-ground. About June and July they return in enormous flocks. Their numbers are so great that they must be personally seen before it is possible to form the least notion of their multitudes. They may be seen towing their way in a particular direction, for *hours together, without a break!* They are, in fact, only to be counted by millions!

APTENODYTES DEMERSA (Latt.), OR CAPE PENGUIN.

PELECANUS ONOCROTALUS (Latt. Ind. Ornith.), OR WHITE PELICAN.

Abounds on the south-west coast during the greater part of the year; found also in many inland localities, such as Lakes Onondova, Ngami, &c. Breeds here. Lays a number of white eggs. Nest situated amongst low bushes. The Bechuanas call him *Mogolego*.

SULA AUSTRALIS (Gould), OR THE SOUTH AFRICAN GANNET.

Exceedingly numerous on the south-west coast, where he is probably one of the chief depositors of guano. Walvisch Bay abounds with them at times, but the open sea is their grand *rendezvous*. Most powerful and continuous flight. Precipitate themselves with fearful velocity on their prey. As they come sweeping down their wings are extended and motionless, but a second or two before they touch the water they tuck them in, as it were.

STERNA CASPIA, OR RED-BILLED TERN.

STERNA VELOX (Rüppell), OR YELLOW-BILLED TERN.

Both these fine species are not uncommon at Walvisch Bay, and on other parts of the coast at certain seasons. But the Red-billed Tern is wary, and rather difficult of approach.

STERNA BOYSII (Pennant), OR SANDWICH TERN.

STERNA DOUGALLI (Mont.), OR ROSEATE TERN.

Both these species are not uncommon on the south-west coast. At Walvisch Bay, *S. Boysii* is the more frequently met with.

STERNULA VALÆNARUM. (Strickland.)

This diminutive and very pretty species is very common at Walvisch Bay. Often seen in small flocks. Is the only species found breeding here occasionally.

LARUS FUSCUS, OR THE LESSER BLACK-BACKED GULL.

Common at Walvisch Bay, and on the south-west coast in general.

LARUS PHÆOCEPHALUS (Swains.), OR GREY-CAPPED GULL.

Scarce at Walvisch Bay, but not uncommon at Lake Ngami.

LESTRIS RICHARDSONII, OR BLACK SKUA.

This species is common at Walvisch Bay. There is probably another, which I have as yet not been able satisfactorily to identify.

Of Petrels we have at Walvisch Bay what is familiarly known as the Cape-hen, and Mother Carey's Chicken (*Procellana pelagica*), but neither is very common. Moreover, they are only occasionally seen within the bay, their true home being the open ocean.

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REMARKS ON INSECTS.

REMARKS ON INSECTS.

THERE is no particular rule for hunting insects in South Africa, they being of such various kinds and habits. One ought always to be on the look-out for them. A small box strapped over the shoulder, or a few pins, should be stuck in your hat when you go out. By the wagons we have a sweeping net and a pair of nippers, 12 inches in diameter, made of brass wire and covered with gauze. I found a great variety of beetles in the droppings of cattle, or the paunch-dung of a slaughtered ox, or in the ground underneath it. The cool of the morning andevening are the fittest times: some are very easily taken when they are benumbed by cold; or on the shady side of trees, in the drifts of rivers, under decayed wood, bark, and stones, in wells, or at springs, at small holes in the ground, damp spots and watering places. Graminivorous insects are chiefly found on the shady side of the leaves and flowers they feed on; but preying insects chiefly on the hot sand in the heat of the day; ant-lions in funnel-shaped holes in the loose sand. Dig little holes at the roots of plants and flowers in search of insects. Some ants are nocturnal in their habits, others diurnal. Moths and other insects are more plentiful before a storm, and are attracted by fires and lights. Centipedes and Scorpions run out of the firewood when ignited, under stones and decayed trees they may be looked for, or under your mats and blankets in the morning. Snakes are benumbed and harmless on a cold rainy day. The Python and other large snakes may be found by following their trail. The most beautiful butterflies are observed in these parts, and are generally found alighting on all sorts of corruption, in search of moisture. Look into every little hole in the ground.

The poison which the Bushmen of these parts use to anoint their arrows with is called *Tha*—(Th representing a click, made by pressing the tip of the tongue against the roof of the mouth and forcibly withdrawing it; the last letter *a* is sounded with a strong nasal tone),—and is the same which is described in my Journal of 1852, as used by the Bushmen in the Southern parts of Sekomi's country, the Bamaīwato. The poison is supplied by a grub of a reddish-yellow colour, three-fourths of an inch long when full-grown. The head is dark-brown. It has serrated mandibles, with two pair of forceps, acting independently of each other. It has two slight indentations on the forehead, perceptible only through a microscope; these must be the eyes. It has a dark-brown shield on its neck which are, or seem, divided in two by a lighter stripe down the middle. The legs are

brown—jointed and hooked. It has on each side two rows of pores within tubercles, the lower of which are more distinctly defined. The insects are hatched just after the first heavy rains: when young they are one-twelfth of an inch long, and of a darkish-green colour; but this is not the actual colour of the insect, but of the excrement with which it is covered, and which seems to be exuded through pores on its back as well as in the natural way. They are found on a bush, or tree, called Maruri-papierie, on which they feed until full-grown, by which time they have generally reached to the extreme ends of the branches on which they feed, and the coating of excrement, drying gradually from the fore parts of the body, breaks away with the insect's efforts to move forward. Having reached the end of the branches they now voluntarily let themselves fall to the ground, and burrow about two feet deep, when they enclose themselves with a black earthy cocoon, resembling goats' excrements. They do not burrow at the roots of the tree, but just where they fall, generally exactly under the extreme ends of the branches, when they are collected by the Bushmen as occasion requires. There they remain until the first heavy shower at the next season, generally November or December, when the beetle comes forth, takes its clumsy flight to the Maruri-papierie, a trifoliate bush on which it feeds and attaches its numerous eggs, one-sixteenth of an inch long, of an oblong shape, and a reddish-yellow colour, after which it becomes exhausted and dies. It is so transparent that the embryo grub can be seen with a powerful microscope. I got Baines to make me a sketch of the insect in its different stages. It changes into a small amber or dark cream-coloured beetle, about a third of an inch long, with longitudinal black stripes on the wing-coverts and thorax.

I have found, by a lucky accident, the antidote for this poison. The Bushmen are generally very unwilling to tell you anything about it, denying the existence of an antidote at all. I have asked the question again and again, but could never get the desired information; but happening to hear some Bushmen expatiating on the wonderful powers of the white men, especially from having with their own eyes seen them consulting the stars by means of glass, I took the opportunity of a lad's coming in with a collection of insects, among which were this grub and the beetle, to ask of them abruptly, just as if I knew all about it, "What do you call that plant with which you cure the poison of Tha?" The Bushmen answered at once, "Kalahètluè," its Sechuana name; adding "but who told you about it?" and they concluded by saying, "those white men are children of God; they know everything."

I have since made further inquiries on the subject from different Bushmen. They are very reserved regarding the antidote, and, as I hear, have even preferred death to divulging the secret; but although they all professed their ignorance of any antidote for the Tha, yet, upon finding that I knew a great deal about it, these men corroborated everything I had before heard. As this Kalahètluè grows wherever the grub is found, I soon discovered the plant, and got Baines to sketch it for me, as well as

the insect, which I kept alive for a long time to make notes on it. The Kalahètluè is the tuber mentioned in my Journal of 1854, as being the favourite food of steinboks and duikers. The leaves are long, thick, narrow, pulpy, and lanceolate, with a strong indention down the middle; in colour a dull green. The plant bears small yellow five-petalled flowers, with two sepals only—the seed-pods like a conical ball—stamens in some cases eight, in others ten in number, and they go in pairs. The leaves, which are slightly acid, are eaten by the Bushmen, either raw or boiled, as a spinach. There are three varieties of this plant; the one broad, lanceolate: the second not so broad, but wavy: the third, narrow, long, lanceolate; the midrib strongly depressed on upper side, the contrary on the lower.

The beetle is sometimes pounded into a paste, and laid on the arrow barbs with gum or bees-wax, in lieu of the grub, and is just as efficacious. A bite of either the grub or the beetle would be deadly, but fortunately they do not bite; the symptoms are nausea, headache, vomiting, &c. The flesh of an animal killed by this venom is however, *not* poisonous, and I have frequently eaten it. On the contrary, the Bushmen have a great preference for that part of the flesh where the wound is inflicted. They say it is *nice* and *salt*. It kills all animals which the Bushmen are courageous enough to attack, or the hides of which their light barbed arrows can penetrate. The lion, the leopard, and the panther are easily destroyed by it; consequently, throughout the whole of this country, between the Lake and Amraal's territory, where only Bushmen dwell, not a lion is to be seen; but in those parts where Bushmen are not so numerous, or have fled from the tyranny of their oppressors, there lions are found in these days in spite of the introduction of fire-arms.

The Bushmen say they can kill elephants also with the poisoned arrow. An elephant wounded in the legs only vomits, but in any other part dies. The bite of the beetle or grub is fatal to man. I consider it quite a triumph to have at last extracted so much from the Bushmen about this insect, after waiting ten years for my knowledge. It lays little orange, yellow, or red transparent oblong eggs, in which the larvæ are visible.

To become an expert naturalist, one ought to turn Bushman, conquer the languages, and one will learn more about the natural history of many things than from books, and years of study and experiment. They live and depend for existence on animals and insects, and therefore are obliged to know all about their habits and instincts.

Lesuga is the name of a long, black, thin, flying-ant that stung me with its tail. I did not feel the pain for some seconds, but then it was most intense, as bad, or worse, than a Scorpion's.

NOTES ON TREES, &c., OF THE ZAMBESI.

Of the trees that adorn the hills and plains between Boana and Sinamani's there are a great variety, many of which afford nourishment to man and beast, and are useful in various ways. They also afford a grateful shade: still there is nothing as far as I have been (that is, to Sinamani's) that can be compared to a regular timber forest in Natal, those miles and miles of Yellow-wood, Stink-wood, &c., &c. The large Baobabs, Pambas, Sterculias, &c., are too soft for any useful purposes. Those that might be useful to white men are the Kushè, Seringa, M'pemella, M'susu, M'pani, Motsekeri, N'gumo (*Mokuchoñ*), Mashasha, Tamarinds, N'gau, and a very few Camels-thorns and bastard Camels-thorns; these are but thinly scattered about the country, in forests overgrown with lighter and more useless trees, often choked at their roots with brambles and underwood—of the Fig and other kinds, such as the Shezedzi, Onzeze, M'pondo, Susumatubalo, Susumacheba, Ontoa, Chechenie (*Wagt-een-beetje*), Tobwè, Motchuerie, N'cheba, N'dgambazza, Shangulie (*Gwarrie*), Nyè.

The following is a list of the very large trees met with on that route; but although I call them large, they are not such as woodcutters would deem so. Many of them are soft; and few would yield, in my opinion, a straight plank of more than 20 feet, excepting perhaps a few growing in the immediate vicinity of the Zambesi river, in rich alluvial soil.

Shashangue.—A willow-looking, glossy leaf; pinnate, lanceolate, and bears large clusters of blue-purple flowers. It is, however, a good timber, resembling Stink-wood, and tough.

Pamba.—A fine large tree, straight stem, ashy and grey bark, smooth leaves, oblong, pinnate, opposite. Fine timber, but very soft.

M'pondo attains here the dimensions of a tree. It is the *Tlakega* of the Sechuanas; leaves two-lobed, nearly divided, like a Bauhinia; large white, crimpled, delicate, five-petalled flower; stamens red; bears an edible bean, and is used by us, when obtainable, as a substitute for coffee.

Boumera.—Like the Seringa-tree of the Colony; leaves pinnate, opposite, serrate, and thick at base (the leaf-stalks). The natives chew the bark as an antidote for sore throat, coughs, &c. It is astringent and tonic.

Onzèzè.—A bushy tree, dense, soft foliage; leaves bi-pinnate; bears large clusters of yellow flowers; seed-pods winged, and in clusters.

Shezedzi.—Small, stunted, insignificant trees, covering the plains south of Boana; leaves oblong, glossy, opposite. Elands browse on it,

and when the last leaves are about to fall they have a very delicate odour.

Chechenie (*Omukulu* of Damaras, *Wagt-een-beetje* of the Boers, the "Wait-a-bit").—Leaves ovate, finely serrate, alternate; thorns opposite, and one sword-shaped, inclining forward, and one hooked, inclining backwards. (Many people have fallen into the error of calling the *Mañana*, or Haak-doorn, by the name of *Wagt-een-beetje*.) It has a dark or brownish-red berry, as large as a small marble, harsh, but edible, and of an astringent and bitter taste. I have tried the leaves as a substitute for tea, and found them injurious. The berries are swallowed by Bushmen and Damaras; but I do not believe it safe for a white man, as the seeds are large and indigestible.

Shangulie (the *Gwarrie* of the Colony) here also attains the size of a tree; narrow, wavy leaves; oblong-narrow at base, irregular, opposite, and alternate; astringent. I have used it as a substitute for tea. Bears a small blue edible berry. Antelopes—especially the pallah—are very fond of browsing on it.

Tobwè.—A large-leaved fruit tree, three lobed, and in other respects the texture and reticulations are very like the common Fig. The flower is like that of the Hibiscus, called Dalasinti; blossoms in February, ripens in winter.

M'susu.—There are three kinds of M'susu, as distinguished by the natives, viz. Susumachela, Susumatubula, and Susukao. Susumachela has large oblong leaves, like Susumatubula. Its bark is boiled, and prepared so as to fit the fibres for weaving into blankets, rugs, or cloths; hence its name. The M'susu, or Susukao, has a leaf more pointed, and exactly similar to the Silver-tree against Table Mountain, for which it might almost be mistaken, being likewise covered with a silky down, though not so glossy or dense as the Silver-tree. The seeds are all winged, like those of the Mogonono, and hang in thick crimson clusters, like blossoms.

Kutrup (*Ngaw* of the Bushmen).—A large knotted Thorn-tree, elsewhere described.

Ontoa is a large tree, the leaves glossy, and resembling those of a pear tree, but is not edible.

M'pemèla.—(Description given at Shabby's, on the Zambesi river: vol. ii., p. 200.)

Tunguro.—A pleasant, edible fruit; branches thorny or spinous; leaves glossy, broad, ovate, alternate, serrate.

N'cheba, *M'biemba*, or *M'buétie* (the Motchuerie of Sechuanas, Damara, Mother of the Damaras, *Lignum vitæ* (?)) are few and small. They only attain their full growth in vleys, or limestone countries, and near vleys. Here they are very small.

N'komba, *N'suluja*, or *Maliesa* (on the Zambesi river.) The natives use the wood to make their firesticks, and obtain oil from the seeds.

Sechelie—Is another tree from the seeds of which oil is obtained for anointing the head.

Talanatu.—The Motsourie of the Lake and Makololo, called the Wild Loquat in my journals. It resembles that fruit, but the leaves are small, ovate, broad at points, and dark green.

Zhozhate, or *Silenko*, at the Zambesi. Oil is obtained from the seeds.

Nhila.—A fine fruit tree, growing in the sand-hills. From the seeds a delicious oil is obtained for culinary purposes.

Nanga.—The Mañana or Hack-doorn.

N'toa—Is a large tree, on which a large edible caterpillar is found in large quantities every year, devouring every leaf.

Kalate.—Another of the above kind, but different tree and different caterpillar.

Musiebie.—The Motsèbe of Sechuanas. A fine large tree, black and saffron-grey stem; fruit tree. Bauhinia, scarlet seeds; bursting out of clusters of green pods, &c., &c.

Kantinema.—A large tree, bearing a fruit which, when pounded and stirred in water, makes a good drink.

M'panda.—Tree large; fruit size of a walnut; is cooked and eaten.

M'guatti (*g* guttural).—Large tree; edible fruit.

N'damba.—Edible fruit or bean, in pods a foot long; tree large.

Nyè.—A large tree; pleasant and edible fruit.

M'lala, or *Mulala*, or *Seénla.*—The Palmyra.

Māmba.—The Acacia Giraffe.

Untamba and *Ndo.*—Two kinds of Strychnia-bearing trees, eaten both by men and baboons.

N'kwokwa and *Ntobgye.*—Two large fruit-bearing trees.

Omboh.—A trifoliate rhomboidal leaf; strong resinous odour. The roots contain a nutritious glutinous juice of a sweetish aromatic odour, and is eaten by Damaras as well as Makalakas. The fruit is very resinous, and is not eaten.

Musuma (the *Mokuchoñ* of the Lake people) is already described, as also the M'buyu, Baobab, and Kukumbuya (a three-lobed Sterculia), and several others scattered throughout these pages; also the Motsekerie, M'tondo, the Tamarind-tree, and others.

Kushè.—Large trees; grey smooth bark; dark oblong leaves; trunks sometimes have deep cavities, which get filled with rain water, which keeps in a state of preservation for a long time after the rainy season. I have frequently quenched my thirst by inserting a tube, and drinking through it. They grow in clusters on the sand-bults, and their shades are the resort of elephants at mid-day.

THE BAOBAB (*Adansonia digitata*).

BO OF THE BUSHMEN; MOANA OF THE BECHUANA AND MAKOLOLO TRIBES; AND BOANA OR BOOYANA OF THE MAKALAKA AND BATONGA TRIBES.

THESE trees, the trunks of which sometimes exceed 100 feet in circumference, have very long and strong roots radiating from the trunk: these roots often crop out over the surface for more than a hundred yards from the tree, giving it great stability, and enabling it to resist the storm. It affords a grateful and extensive shade in these warm latitudes. An army might shelter under it, though it is oftener the resort of troops of gnus and buffaloes, and the mighty elephant himself, at mid-day. When standing alongside of this gigantic tree you fancy it a castle wall. Its pinkish-grey bark is a foot thick, smooth and glossy. Leaves digitate, (quinquefoliate) and glossy. The flowers are white, and 8 inches in diameter; it has five petals overlapping one another, and, unlike the Australian Baobab, the flower hangs pendant instead of standing erect on the stem. The fruit hangs attached to a strong stem, and has a woody gourd-like capsule, sometimes 10 or 12 inches long, but generally about 6 inches, and from 3 to 4 inches thick. In this capsule numerous kidney-shaped seeds are imbedded, between fibrous divisions, in a white, pulpy, acid substance, somewhat resembling cream of tartar in taste, and hence called by the Boers "kram-a-tat" (a corruption for cream of tartar). The fibrous bark is converted here into a kind of matting, and resembles coir. Bags, ropes, &c., are also made of it; but the wood, being soft and spongy, is useless, excepting as tinder when in a state of decay. In the decayed hollows of the uppermost branches bees build their hives in fancied security from the ravages of the Bushmen, who, nevertheless, scale its castle-like walls by means of two rows of pegs driven deep into the bark, to serve as a ladder. Eagles and crows, sprews and jays, love to build their nests on the highest branches. From the pulp of the fruit a very pleasant and wholesome acid drink may be made with boiling water in cases of fever, especially with the addition of a little sugar or honey. The Bushmen make a kind of porridge by boiling it, and they esteem it very much, but it is then very acid. The fruit ripens when the leaves have fallen, generally in March or April; and the difficulty of throwing them down with sticks and stones insures a pretty constant supply throughout the winter season. The ordinary average of these trees are from 60 to 80 feet circumference; but the largest I have ever seen was 101 feet, and then one section of the solid mass had been torn down by the storm and its own weight, and this measured 54 feet in circumference by itself. I have found in some of these trees large excavations, made by the Bushmen, in which ten or twelve men could sleep with a fire in their midst. In others I have found large caverns, the resort of numerous owls and bats (*Adansonia digitata*).

Leaves digitate; leaflets five in number; glossy above; margin entire;

sepals five; petals five, and of thick fleshy texture; outer whorl green outside, and upper surface covered with very thick silky down; stamens indefinite, monadelphous, and radiating in a ball from the top of the white pyramidal cylinder surrounding the pistil, which rises an inch above the top. The ball is formed of innumerable radiating filaments, nearly an inch long. The trunks of younger trees ventricose. The flower has a fruity smell, is white, but changes into a rusty brown when it fades. The flower bud is a round capsule, looking like a fruit; when it attains the size of an apple the five sepals burst asunder, from which the snow-white flower unfolds its spiral folds, from which five pairs of filamentous points expand themselves as the points of the sepals curl downward, or rather upward (for the flower hangs face downward).

An "Anona" (*Bododo* of the Bushmen), found in the desert near the Chobé, in 1854 (see old Journals, vol. i., p. 284). It is perennial, grows in moist sandy places, such as old river beds and hollows; about fifteen to eighteen inches high; grows in beds or clusters. Leaves oblong, alternate, and one inch apart; upper side smooth and glossy; under side strongly reticulated. Fruit divided into square sections on outside, like a Pine-apple; each external section indicating a partition or division of the pulp towards the centre, and each of which encloses a brown seed, in shape like a castor-oil seed, but larger. The fruit hangs downward by a short stem under the leaves; it emits a very sweet odour when ripe, by which it may easily be traced in the fields. It is the most luscious fruit I have ever tasted, and when ripe is of a pine-apple colour. In its green state it is used as a vegetable. In favourable seasons the Bushmen gather large quantities, and become fat upon it, but it is almost too luscious for a white palate. Some seasons does not bear at all. Some of my friends cultivated the plant at Hazendaal, near Rindebosh; but the cold, and an insect, kept it low and sickly, and it never bore fruit.

ROUGH NOTES

ON

THE BOTANY OF NATAL,

KINDLY SUPPLIED BY JOHN SANDERSON, ESQ., FOR MANY YEARS A RESIDENT AT NATAL;

WITH

SOME OBSERVATIONS ON THE BOTANY OF NATAL,

Extracted from a Lecture delivered at Pietermaritzburg

BY

THE REV. EDWARD ARMITAGE, M.A.,

IN DECEMBER 1853.

ROUGH NOTES ON THE FLORA OF NATAL.

DEAR SIR,

I regret that I am not botanist enough to pretend to give you any proper account of the Botany of Natal. I refer you instead to the accompanying lecture by the Rev. Edward Armitage. That gentleman visited the colony in 1853. Although his stay was but short, he appears to have made good use of his time, and, being a competent botanist, points out the principal families of plants that characterize the colonial Flora. Since that time, however, the Botany of Natal has been, and is now being, more extensively explored; and the fruits of these researches are in process of publication by Dr. Harvey, of Dublin, and Dr. Sonder, of Hamburg, in the "Flora Capensis," and by the former of these gentlemen in the plates and letter-press of his "Thesaurus Capensis." Dr. Harvey is also about to issue a new edition of his "Genera of South African Plants," published thirty years ago. In all these works the plants of Natal are associated with those of the Cape and South Africa generally.

The explorations of late years have been carried on by several collectors; among whom Mr. W. Gueinzius, the late Mr. R. W. Plant, Mr. M. J. McKen, and Mr. W. T. Gerrard, are conspicuous. By the last-named gentleman alone many new genera and species, to the number probably of hundreds, have been discovered in Natal and the neighbouring parts of the Zulu country. His industry and his success alike make his recent departure for Madagascar much to be regretted for the sake of the South African Flora, however likely he may be to meet with a greatly more abundant reward for his labours in the new field to which he has transferred them.

Natal, although situated without the tropic, yet, being on a coast washed by the great Mozambique current, has a climate more nearly tropical than would otherwise be expected from its geographical position. At the same time the remarkably different elevations of different parts of its surface produce a very marked difference between its coast and its inland Flora. The colony may be roughly described as diamond-shaped, the northern and southern points of the figure being respectively in about 27° 20′, and 30° 45′ S., the south-east side of the diamond facing the Indian Ocean. The Kathlamba, or Drakenberg mountains, which form the north-western boundary of the colony, rise to a height of from 7,000 to 9,000 feet and upwards at a distance of from 90 to 130 miles from the coast, and present throughout the greater part of their line an inaccessible perpendicular wall many hundred feet in height. Indeed, in one place the river Tugela (in the lower part of its course the north-eastern boundary of the colony) makes

one leap of 2,000 feet in depth. From the slope of *débris* at the foot of this mountain rampart the land stretches seaward in successive terraces, more or less regular, dropping from a height of 4,000 or 5,000 to one of about 2,000 feet; from that to an elevation of 800 or 1000 feet above the level of the ocean, and from that again to the low lands along the sea-board. These successive terraces are more or less broken up, by the agency, apparently, of both fire and water, the result being innumerable valleys, some with gently-sloping sides, others mere ravines with perennial streams flowing between perpendicular walls of rock. It is in these valleys that the forests are chiefly found. A belt, however, of a mile or two in width extends along the coast, often densely wooded, and dark masses of forest lie like clouds upon the steep mountain slopes, turned, for the most part, from the noonday sun, and at a height of several thousand feet above the sea. With these exceptions the face of the country is generally bare of wood, although the plains and hill-sides are frequently dotted over with solitary Acacias. It is, of course, on the coast, and within the influence of the warm sea-air, that the vegetation strikes the European eye as most foreign in its aspect. On the islands of the bay, and along its margin, as well as at the mouths of some of the rivers, Mangrove trees, white and red, lead their amphibious life, dashed by the waves, and crawled over by sea-crabs and various shell-fish. Standing alone, or intermixed with other trees, tower Euphorbias (*E. grandidens*) like giant Cactuses, with trunks two or three feet in diameter, and grey and solemn as an old abbey wall. The Wild Date-palm (*Phœnix reclinata*) is also abundant on the coast and for some miles inland; but, as the natives make brooms of the stem, it is now seldom to be found of any great height. One tree about 30 feet in height survives in the bush between the port and the town of D'Urban; and in the neighbourhood of Verulam I some years ago saw some graceful clusters equally high. The *Strelitzia* (*alba* or *Augusta*), commonly called the Wild Banana, with its beautiful broad leaves, and its strange dragon-like large white flowers, clothes the steep slopes by the sea, or hangs over the still pools of the rivers. A large cordate-leaved shrub (*Paritium tiliaceum*) with yellow mallow-like flowers, which turn orange and then crimson towards evening, is abundant on the coast, especially about D'Urban. The demand for timber has caused all the larger trees near the towns to be cut down; but here and there a large red Milk-wood tree (*Mimneops obovata*), or a many-stemmed wild Fig-tree of great size, yet remains. One of the latter kind, to be included in the intended Victoria Park at D'Urban, has clustered stems of 30 feet in circumference, and stretches its arms over a circle of upwards 200 feet in diameter.

The prevailing tone of the foliage of the bush is dark: most of the trees being evergreens, and the stems and branches being for the most part smooth and light-coloured, they stand out in bold relief, even at a great distance. The bush on the coast is rendered impenetrable by a dense undergrowth of shrubs and climbers, acacias thick-set with clusters of thorns of two or three inches in length, or pliant monkey-ropes and kanot-grass. Many of the

trees have large and showy flowers; the Kafir-boom (*Erythrina Caffra*) with its scarlet blossoms showing miles off in the bush, the *Calodendron Capense*, with its delicate pink flowers, the white *Oncoba Krausiana*, and the creamy corollas of the *Piptolæna* (*Voacanga*) *Dregei*, that stands up from the marshy ground with its tall trunk and handsome dark green leaves. One of the most remarkable of the Natal trees is our only representative of the Ivy family, and is known as the Cabbage-tree, and to the Dutch as the Nojes-boom (*Cussonia*). There are several species, some squat and scrubby, others tall and graceful as a palm, which they much resemble in general appearance, but all remarkable for their beautiful digitate foliage, their striking clusters of unopened leaf-buds, and no less striking inflorescence.

In addition to these, and still confining our attention to the neighbourhood of the coast, are the Horse-chestnut, like *Barringtonia racemosa*, the exquisite heads of scarlet flowers of the Hiccup-nut (*Poivrea grasteosa*) surrounding its rich velvety brown and green flower-buds; the various fragrant Gardenias, the scarlet Burchellia, the large-leaved *Oxyanthus Gerrardi*, hiding its beautiful long-tubed white flowers in the shady woods and ravines; the Amatungulu (*Arduicia grandiflora*), its largew hite stars and scarlet plums contrasted with its dark foliage; the deep crimson flowers of the *Schotia* issuing in great tufts from the stems and large branches of the tree: the orange-scarlet trumpets of the Tecoma (*T. Capensis*), the fragile snowy blossoms of the Turræa (*T. obtusifolia*) and numberless others, trees and shrubs. Climbing among these, and forming dense masses of foliage and flowers, are Ipomæas and Convolvuli of every hue; several species of Asparagus, Wild Yams, Elephants' Foot, and an immense variety of papilionaceous flowers. Of a half-climbing habit is the laurel-leaved *Acridocarpus*, brightening the skirts of the bush with its racemes of bright yellow flowers, and at the foot of all, or scattered over the plain, a profusion of Thunbergias, Barlerias, Lobelias, Oxalids, Anomatheras, Orchids, and, most gorgeous of all, the scarlet-orange Methonica.

No season is without its flowers in Natal. They are, of course, more numerous at one time than at another; but even mid-winter has its share. Thus, in July and August, may be found the Lily of the Nile (*Catta Ethiopica*), Erythrina, Hibiscus, Grewia, Thunbergia, Dombeya, Crassula, Plumbago, Polygala, Indigo, Lobelia, Hypericum, Capparis, Hæmanthus, and many others, and often several species of the different genera. Many of the flowers are but short-lived, and no sooner has the blossom faded than the foliage dies down and all trace of it is lost; while by its side some other springs up to wither, and be suceeeded by others, and these again by others, throughout the year.

The branches of the tall trees inland, or on the coast, are hung with Lichens, and Ferns, and Club-mosses, as well as with a vast variety of Orchids, beautiful and fragrant, although far inferior in size and splendour to those of more tropical regions. The tall stems in the moist woods are, perhaps, netted with the clinging rhizomes of a fern (*Lomariopsis Meyeriana*), the

fronds of which, like immense ostrich feathers, hang around them from the ground upwards, till they are lost to sight in the intricate mass of foliage above. Or sword-like fronds, 3 or 4 feet in length, of *Phymatodes irioides*, flash back a stray sunbeam from some lofty bough, or from dense masses on the rocky banks of some shady stream. On the moist stones and trunks of the trees we find the diminutive and delicate *Trichomanes*, more delicate and diminutive than the Tunbridge-Wells fern, and hanging over them Tree-ferns (*Aleophila Capensis* and *Todea Africana*), with trunks 10 or 12 feet high, and graceful fronds sweeping the ground, or trailing in the stream. Here too may be found the Lance-fern (*Lonchitis glabra*, or *Natalensis*), one of the most beautiful of the family, with its recurved edges, and lunate fructifications in the sinuses of its most exquisitely-cut fronds; the *Marattia salicifolia*, with its most remarkable swollen cartilage-like articulations, like hinges, at the base of every frond, and even of every pinna of a frond. I have seen fronds of the delicate *Gleichenia polypodioides* measure 14 feet in length (possibly much more, as, from their mutual entanglement and their fragility, it was almost impossible to separate them), yet the thickest part of whose stem did not equal that of a crow-quill. I shall never forget the first time I met with this most lovely fern. It was in the Magalisberg; but the fern flourishes equally well in Natal. I was exploring a ravine in that paradise of botanists; the walls of rock, not 20 feet apart, rising to a height of 100 feet above me, so that I was in twilight below. To proceed up the glen, the whole bottom of which was filled by the alternate rapids and pools of a little stream, I had to wade or leap from stone to stone. A mass of rock, some 20 feet in length, had fallen away from one side, leaving a cave of no great depth, but black as night. Across this recess hung the most delicate tracery that can be imagined, the tender green fronds, with brown rachis, of the Gleichenia, clearly defined against the darkness beyond.

Some few ferns known in Europe are found also in Natal; the common Bracken (*Pteris aquilina*), the Maiden-hair (*Adiantum capillus-Veneris*), and the Green-fern (*Osmunda regalis*), are the most common. A native of Crete (*Pteris cretica*), *Lomaria magellanica* from the Straits of Magellan, *Nephrolepis* from Mauritius and Madagascar, and wanderers from various other parts of the world, all meet here.

In the deep recesses of the rocky ravines, or on the steep hill-sides, are found timber trees of many kinds valuable for furniture, for wagon-work, for beams, for mill-work, and for general purposes. The largest are probably the different kinds of Yellow-wood and Red Milk-wood. The Yellow-wood (*Podocarpus elongatus*, or *Thunbergi*,) I have found to measure upwards of 27 feet in girth, or 9 feet in diameter, in the Stinkhoutrand near Maritzburg. Stink-wood (*Oreodaphice bullata*), Sneeze-wood (*Pteroxylon utile*), Assegai-wood (*Curtisia faginea*), and many other valuable timber trees, are also found in the forests, and the sawing and conveying them to market employ many hands. The bark of various Acacias is used for tanning.

The Heaths, which form such a large and characteristic portion of the

Cape Flora, are here poorly represented by perhaps less than half a dozen species, none of them, so far as I have seen, remarkable for beauty. The Proteads are also few; the Sugar-bushes, which represent them here, approach the coast within eight or ten miles, and stretch beyond the Drakenberg. Natal, being quite destitute of the dry Karroo-country of portions of the Cape Colony, is of course deficient in the peculiar vegetation of such districts.

Mr. Gerrard has lately discovered on the Nonoti river, and even nearer the port, a species of Custard-apple (*Anona Senegalensis*) which appears as an addition to the first volume of the "Flora," in vol. ii.

Of the Water-lilies one only, the blue *Nymphæa stellata*, has yet been described, although a white one of smaller size is spoken of.

The Crucifers found in Natal are few and unimportant. Of *Capparideæ* the variety is considerable; *Cleome*, *Cadaba*, *Niebuhria*, are all represented, and of *Capparis* itself there are several species found, one of which (*Capparis corymbifera*) is remarkable for its large, showy, rosy-white flowers.

Among *Bixaceæ*, *Oncoba* is remarkable for its beautiful large white flowers and yellow stamens. One species (*O. Krausiana*) is plentiful around Port Natal; another (*O. spinosa*) is much more rare, and yields the beautiful spherical nut used by the Kaffirs as a snuff-box, under the name *Itonguan*. To this order belongs the new genus, named *Rawsonia*, in honour of the late Colonial Secretary at the Cape, and *Aberia Caffra* and *longispina*, the Kei apple, or Dingan's apricot, invaluable for forming thorny fences and yielding a pleasant fruit.

Among *Violaricæ*, the genus *Ionidium* are conspicuous from their singularly large labellum.

Of *Droseraceæ*, a few only have yet been found, of which the finest is a very tall handsome plant, discovered at the Dargle, near Maritzburg, by Mr. G. Fannin.

The genus *Polygala* has numerous representatives; one of which (*P. serpentaria*), like a congener in America, has the reputation among the natives of being a specific for snake bites.

The *Hypericums* are few and unimportant.

The order of *Malvaceæ* form, on the other hand, a very important and prominent characteristic of the vegetation, in the genera *Sida*, *Abutilon*, *Pavonia*, *Paritium*, and *Hibiscus*, many of them valuable for their fibres; a branch of industry which, as yet, however, has been but little cultivated.

In *Byttneriaceæ*, a few species of *Hermannia* and *Mahernia* are found, but *Dombeya* is greatly more conspicuous. One species (*D. dregeana*) dots the country with masses of white for months together, and is remarkable for its flowers turning brown without falling off. A recent discovery of Mr. Gerrard's (*D. burgessiæ*), with rosy-tinted fragrant flowers and handsome velvety foliage, will be a great acquisition to florists in Europe.

Of *Tiliaceæ* the most noticeable are the various species of *Grewia*, of which one (*G. lasiocarpa*) is known to the natives as the Elephant's-ear, on

account of its large leaves. Several species of *Triumpetta* and *Corchorus* are also found.

I have already referred to *Acridocarpus*, of which three species are known, with handsome yellow flowers.

Japindus oblongifolius is a very common and very handsome tree, with dense panicles of white flowers and yellowish oval fruit.

Among *Meliaceæ* there are two species of *Turræa*, one of which (*T. obtusifolia*) is certainly one of the most exquisite of the Natal shrubs. Its foliage is of a deep glossy green, and its petals and fringed staminal tube of the purest white. *Melia azedarach* is the Syringa of the colonists, possibly introduced from the east, but, being a rapid grower, is much used for its shade, especially in the towns. *Ekebergia capensis*, the Essenhout of the Dutch colonists, yields a valuable tough timber.

The *Geraniaceæ* are by no means so numerous as in the Cape Colony, nor, so far as I know, are they to be compared with them for beauty.

The deep crimson Oxalis (*O. purpurata*) is one of the most abundant of the low-growing flowers.

The *Caladendron Capense*, the Wild Chesnut of the Cape colonists, is not a common tree in Natal, but is occasionally met with, and unquestionably is one of the finest, well deserving its name for its exquisitely-pencilled delicate pink flowers. The *Rutaceæ*, to which it belongs, a very numerous family in South Africa, does not, so far as yet explored, appear to be by any means so abundant in Natal.

Among *Terebintaceæ* the genus *Rhus* presents numerous species, conspicuous for their large and graceful racemes of minute greenish flowers, and their clusters of showy red berries. To this genus belong the plants yielding Japan varnish and several valuable drugs; and it is probable that the Natal species may, on due examination, be found possessed of properties hardly less valuable. I have more than once seen a shining black varnish dried upon the wounded roots of trees belonging, I believe, to this genus.

The only native plant belonging to the Orange family is *Myarisin equalis*, a very elegant shrub, with light green pinnate leaves, but rather unpleasant odour, found very plentifully around Port Natal.

The order *Leguminosæ*, on the other hand, is remarkably rich; the genus *Indigofera* being one of the most abundant and characteristic in its season of flowering. Attempts were made, a few years ago, to grow and manufacture indigo both from native and imported seed, and, it was said, with every probability of success. For some reason, however, the attempt has been long abandoned. *Arachis hypogœa*, the Ground-nut, so remarkable for its mode of ripening its seed, is also cultivated for its oil, although to a less extent than formerly. There seems no good reason why these plants should not be cultivated with success for their respective products. *Schotia brachypetala*, whose showy crimson flowers are, from a superficial resemblance, popularly likened to those of the Fuschia, puts forth its large panicles in the greatest profusion from the stem and larger branches of the tree in the month of September. The genus *Bauhinia*, although not

common, is not likely to be overlooked by any one who has seen its bilobed leaf and beautiful primrose-yellow flowers, with a claret-coloured spot of the form of the leaf. To another genus, *Entada*, belongs a remarkable plant (*E. Wahlbergii*), said to be found also on the west coast, and which seems to realize the fable of Jack's beanstalk. On the borders of the Zulu country it is described as ascending the tallest trees, spreading among their boughs to the distance of a hundred yards or more, the stems forming (as I have myself seen) a liane or cable of 18 inches or upwards in diameter, by means of which one can ascend as by a ladder, and the same spiral form being assumed by the smallest branches. The legumes are often upwards of 3 feet in length, and 4 inches broad, with beautiful round brown beans, 2 inches in diameter.

Of the genus *Acacia* the species are numerous, none of them, however, with the phyllodia or leaf-like petioles of the Australian kinds. To this genus belong the umbrella-like Flat-crown, common in the Berea-bush near D'Urban, as well as the low trees which dot the face of the country in some parts of the colony, forming what is called the Thorn-bush country, resorted to as a winter pasture for cattle. The Flat-crown is a large handsome tree, often reserved for shade when the bush is cleared; but it is remarked that it gradually dies away when the trees around are felled. The barks of the various species are much used for tanning, and several of them yield gum, which is occasionally collected. The pink and yellow flowers of *Dichrostachus nutans* are very elegant.

To the order *Saxifragaceæ* belongs the genus *Greyia*, named by Sir W. Hooker and Dr. Harvey in honour of that true patron of science and letters, and distinguished statesman, Sir George Grey. The species on which it is founded was discovered in the mountainous inland parts of the colony by Dr. Sutherland, the Surveyor-General, and has been named after him, *G. Sutherlandi*. It is a low tree, which puts forth its bright crimson, many-flowered racemes among the most exposed rocky places in the mountains, and forms one of the showiest of colonial plants.

Natal is not rich in *Mesembryaceæ*, although a few are found in sandy and rocky situations, and *M. edule*, the Hottentot Fig, is one of the most striking of the plants that greet a stranger on landing.

Of the *Cucurbitaceæ*, on the other hand, the species are numerous, and many of them very handsome, both as regards flower and foliage as well as fruit. This family has been particularly investigated by Mr. McKen and Mr. Gerrard, the latter of whom has discovered one of the most remarkable (*Gerrardissa megarhiza*, Harv., *Tuberularia*, Decaisne), with an immense tuberous rhizome, two or three feet in diameter, lying on the surface of the ground.

The *Passifloraceæ* are not numerous. *Tryphostemma*, a new genus, has flowers under half-an-inch in diameter; and another genus, *Modecca*, has lately yielded two or three new species remarkable for their handsome foliage.

The Red Mangrove (*Rhizophora* ———) is so highly valued for posts,

stakes, and such out-door purposes, that few trees of any size are now to be found in the Bay of Natal, or other situations in inhabited districts. The White Mangrove (*Laguncularia racemosa*), although far less valuable, is now almost equally scarce. Mr. Gerrard believes that he has lately found a true Mangrove growing inland on the mountains! Among *Melastomaceæ*, *Osbeckia* affords three species, of which *O. canescens* is a beautiful frequenter of marshy places, conspicuous by its large crimson flowers and its rich russet-velvety capsules and stems.

The order of *Myrtaceæ* is represented by several genera, of which *Syzygium*, *Eugenia*, and *Barringtonia* may be named, the last already referred to as resembling the Horse-chesnut, is found also in Java, and with long pendulous racemes of rosy-tinted white flowers, is one of the greatest ornaments of the margin of the Bay.

Since the publication of the second volume of the Flora, the order *Haloragea* has received the addition of the genus *Trapa*, not previously known as a native of South Africa. It was first brought from Delagoa Bay by my brother, Mr. Sept. Sanderson; and, on the suggestion of Dr. Harvey, I have since sought and found it in this immediate neighbourhood, in and near Sea-cow Lake. The plants appear to be of different species, the "devil-faced fruit" of the Delagoa Bay, one named *T. bispinosa* by Dr. Harvey, appearing, when perfect, to have four barbed spines, and the petioles much less inflated and less hairy than our Natal ones, the fruit of which is really "bispinous." These Water-calthrops are used as food by the natives of South Africa, as other species are in Italy, China, Cashmere, &c.

Among *Loranthaceæ*, the species of *Lorunthus* are most numerous, adding a beauty not their own to many of the trees of the forest. The long tubular flowers are frequently decorated with alternate transverse bands of colour, white and crimson, and one (*N. Natalitius*), waxy white, tipped with yellow, has no fanciful resemblance to "lighted candles," by which name I have heard the children call them. The union between the parasite and the tree on which it grows forms a large globular mass, the bark of which generally assumes the appearance of exquisite carving, resembling the flowing foliage of a boss in a Gothic church. The mistletoes are two or three in number, one being common enough around D'Urban, while others are found further inland. The former has orange-coloured berries, and broad obovate leaves; the latter, like the Cape species, are leafless.

The *Rubiaceæ* form an important part of the Natal Flora, including plants from the minute, trailing, cobalt-flowered *Hedyotis amatymbica*, to the gay *Burchellia* and the stately *Oxyanthus*, already named. They comprise also the *Gardenias*, which are among the most ornamental plants of the bush, from the Cape Jessamine (*G. florida*) and the *G. globosa*, which are at once two of the most fragrant and the most common, to the *G. Thunbergia*, which is one of the rarest, besides several other species less known. The so called "Wild Medlar" is *Vangueria infausta*. The

genera, *Randia*, *Grumilea*, *Pavetta*, and several others, are all largely represented, and *Rubia*, the genus on which the order is founded, presents at least one species, *R. cordifolia*. The seeds of some of the plants belonging to the order are sometimes used as coffee, although it is uncertain if any true coffee is to met with wild.

Among the *Compositæ*, which form so large a portion of the Flora, the most striking are the Everlastings (*Graphalium*), and the *Gerberas*, one of which, *G. aurantiaca*, is found in such masses on the Town-hill of Maritzburg, and near Richmond in masses of brilliant scarlet that blaze half-a-mile off.

Lobelia is, perhaps, the most prominent genus of the *Campanulaceæ*, but *Wahlbergia*, *Pombrowskya*, *Roella*, and some other genera, are met with.

I have now gone through, very cursorily, the chief orders embraced in the already published volumes of the "Flora"; my notices of the remaining orders must be even more hasty and imperfect.

Passing over the Heaths, which, as already stated, are, so far as yet known, poor and unimportant in Natal, I shall only name among *Sapotaceæ* the Red Milk-wood (*Mimusops obovata*), as valuable for its large-sized and excellent timber; among *Oleaceæ* several wild Olives, also valuable for their wood, known as iron-wood. They have also been recommended as stocks for grafting the European Olive upon.

Several species of *Strychnos* are found, the fruits of *S. McKenii* being known as the Monkey Orange, and *Brehumia spinosa*, a species nearly related to the Natal Orange. The seeds are enveloped in a sweet and pleasant pulp, which is eaten by the natives and children. I am not aware that the seeds have been employed medicinally in lieu of *S. nux vomica*, but their properties are doubtless well worthy of investigation. Mr. Gerrard is of opinion that it is one of this, *S. Umbanda* (Panda's walking-stick), that has been mistaken for the *Chinchona Calisaya* of Peru. The bark is highly bitter, and is employed medicinally, I believe, by the natives.

The *Apocynads* are numerous, and comprise two of our handsomest plants to which I have already referred, *Piptolæna dregei* and the *Ardrima grandiflora*, the beautiful and agreeable fruit of which is known as the Amatungulu.

The showy scarlet flowers of *Tecoma Capensis* is the most noticeable of the *Bignonaceæ*.

Mucaria procumbens, remarkable for its many-hooked seed vessel, is found west of the Drakenberg: I am not aware whether it has been met with on its Natal side; but another plant of the order (the *Pedaliaceæ*), namely, the *Sesamum orientale*, is cultivated by the natives for the sake of its oily seeds, which are eaten as a kind of relish with Indian corn. Attempts have been made to manufacture the oil (known in commerce as gingelli, or til-oil), but have been, for the present, abandoned. This plant and *Sporledera triloba*, which it much resembles in flower, are distinguished by their tall handsome spikes of lilac blossoms.

The *Convolvulaceæ*, *Solaricæ*, and *Scrophularicæ* are all orders with

numerous representatives, including many of the finest native flowers. Among the *Asclepiads* are some of the most beautiful, as well as some of those that have been deemed repulsive enough to be termed loathsome, and stigmatized with the name of Toad-plants. The genus *Gomphocarpus* to some extent combines both characteristics. Although but small, few flowers are more beautiful to the eye, or more attractive for their perfume, than *G. multicaulis* and some other species, while the bell of *G. campanulatus* has the lurid green and brown spots of the *Stapelias*. The late Mr. Plant brought from the banks of the Zugela a remarkable Stapelia, not yet named, perhaps, although dried specimens and drawings were sent by the writer to Sir Wm. Hooker in 1860, and by Mr. Plant himself probably earlier. The five-pointed star formed by the flower is 15 inches in diameter; so that this is probably the largest flower in south-eastern Africa, and approaches the *Rafflesia* itself.

Several species of *Begonia* are found, contrary to what was believed a few years since in regard to the botany of the colony.

The *Proteaceæ* are by no means so numerous as in the Cape Colony: the sugar-bushes have been already named.

The *Euphorbiaceæ* are very numerous, and some of the more striking have already been alluded to. The natives make oil of a species of Castor-oil plant, which springs up luxuriantly in waste ground, but which has probably been introduced. They do not employ the oil medicinally, so far as I can learn. Nor do they appear to know the Mandioc (*Jatropha*), although it is largely cultivated at Delagoa Bay by the natives of that region.

Of *Urticeæ*, *Ficus* has many representatives, both in absolute number, and in number of species, of which, however, I can only refer to two. The one has an oval leaf the size of the palm of the hand, and of a peculiarly rich green, and is probably nearly related to the kinds which yield India-rubber. Although not common, growing wild, it is a favourite tree, and, growing freely from stakes, is frequently to be found about houses, raised in this manner. Some have supposed it to be an exotic. The second forms the largest trees now to be found around D'Urban, and is certainly one of the most striking from its anastomosing stems and branches, as well as from the large masses of fine roots, of a beautiful crimson colour when they first make their appearance, hanging from aloft. In the first instance this Fig is frequently a seedling, springing up in the fork of another tree. As it grows, it sends its roots down along the stem of its supporter in search of more ample nourishment from the soil, and grows with rapidity. One of the few Yellow-wood trees of any size remaining in the neighbourhood of D'Urban affords a good example of what I refer to. The stem of the Yellow-wood tree has now only three or four large branches, whose rough bark and angular bends contrast strongly with the smooth exterior and gliding outlines of the Fig. Around the great rough trunk, 3 or 4 feet in diameter, arises the climber, here flowing over its surface as if forming a polished sheath for its protection; there inosculating

into a network over it; now striking out a stem of its own, which presently after unites with another which has slid along a limb of the tree, everywhere embracing and closing it in until their branches and foliage mingle in the upper air. The large Fig-tree, already spoken of as included in the intended Victoria Park, is of this species.

The *Nzangu* of the Kaffirs is, I believe, *Cannabis Indica*, and is smoked by them and by the Hottentots, the latter of whom name it *Dacha*. I doubt, however, if its effects are so powerful as those we read of proceeding from the use of Hashish.

The Conifers are comparatively few; but the various species of Yellow-wood (*Podocarpus elongatus*, and others) give them importance by taking the place of the Pines and Firs of northern latitudes. The great size these trees attain has already been referred to; but trees of such magnitude must now be sought in localities remote from the towns.

To the *Cycadeaceæ* belongs the remarkable plant first sent to Europe by Mr. Gueinzius, and described as a Fern (*Lomaria eriopus*) by Kunze; but which, when taken home by Dr. Stanger in 1851, was found to belong to this order, and named after him *Stangeria*, *paradoxa* being added as a specific name to indicate its puzzling character. The male cone is about 4 inches in length, and 1½ inches in diameter; the female is much more rarely met with, and is rounder in form, being barely 3 inches in length, and its diameter from 2 to 2½ inches. This cone when ripe falls to pieces, displaying a large number of nuts about the size of hazel nuts, enclosed in a scarlet-coloured skin. These nuts are frequently made into necklaces by the natives. By the edges of ravines and among rocks is found the *Encephalartos Caffer*, the stem of which, marked with the scars of the fallen fronds of many years and blackened with fire, I have seen 10 or 12 feet in height, several stems rising to all appearance from one foot, clothed near the top with tiny ferns, and crowned with a graceful circle of immense fronds, from the midst of which rise one or more cones a foot and a half in height. The cone of the female is 2 or 3 feet in height, 1 foot in diameter, filled inside with somewhat quadrangular nuts, used as snuff-boxes by the Kaffirs.

Another of this family is the *Zamia cycadifolia*, found near the Umtwalume. Its fronds resemble ostrich feathers, and when they first make their appearance they are thickly covered with down. At the same time a kind of gum is discharged in great quantity.

The Orchids of Natal are numerous and beautiful, although neither in size nor splendour can they vie with those of Madagascar, India, or South America. As yet they have been but imperfectly investigated, and every year new species, and even new genera, are discovered. They are found of all sizes from 5 or 6 lines to as many feet in height, and of every kind, leafless epiphytes, with stems like a hair, and flowers the size of a pin-head, or robust terrestrials, with a hundred large showy flowers in one immense panicle.

Of the order *Cannæ*, a very fine *Kæmpferia*, not yet named, I believe, has been found in the neighbourhood of the Umtwalume.

Among *Musaceæ* I have already referred to the white *Strelitzia*, or Wild Banana. A grove of these plants, with palm-like stems of 15 or 20 feet in height, broad leaves, and striking flowers, is unsurpassed in grace and beauty by any plant I know.

The *Irideæ* are very numerous; the genera *Ixia*, *Iparaxis*, *Tritonia*, *Watsonia*, *Gladiolus*, *Anomatheca*, *Axistea*, *Iris*, *Moroea*, and others, largely colouring the landscape in their respective flowering seasons.

The *Amaryllidaceæ* are equally or even more numerous, and include many of the most brilliant members of our Flora, *Hæmanthus*, *Cyrtanthus*, and *Amaryllis*, for instance; the favourite Natal lily being *A. Belladonna*.

The same may be said of the *Hemerocallideæ* and *Liliaceæ*. To the former belongs the delicious-perfumed but rarely-flowering *Sanseviera*, whose mottled, leathery foliage is so common about the skirts of all clumps of bark around the port. Species of this genus are largely employed for their fibre on the Mozambique coast, and, no doubt, our native would yield one no less valuable. The Aloes are numerous and showy, but no other use is made of them than by the natives, who grind up their dried leaves in snuff, to give it pungency. The species of Asparagus are numerous and peculiarly attractive, with their bright green foliage and white flowers.

Of Palms two only are known: the Date-palm (*Phœnix reclinata*), and the Fan-palm, erroneously described as *Phytelephas macrocarpa*. Some years ago a quantity of the roots were sent to England, in the hope that they might be equally serviceable in the arts with the vegetable ivory of Maddalena, but it was found to be deficient in size, opaqueness, and colour. Sir William Hooker was of opinion that it was identical with the Doum-palm of Egypt, but later information, I believe, has ascertained it to be a *Hyphœne*. I have only once seen it in flower, and that a male plant, now cut down, but it fruits freely in some parts of the country. I cannot learn that it is ever found branching as the Doum-palm does.

Among the *Aroideæ*, the *Calla Ethiopica* holds the first place; but the *Richardia albomaculata*, with its spotted leaves, and the deep crimson stain at the base of their spathe, although smaller, is hardly inferior in beauty. The *Pistia stratiotes*, commonly called the Water-lettuce, which is found floating freely in ponds and still pools, is an interesting and beautiful member of this family. *Arum esculentum* is cultivated by the natives under the name of Amadumbe. *Gueinzia* is deservedly named after Mr. Gueinzius.

The Grasses of Natal are many of them very beautiful, and several are cultivated by the natives for their grain; and one, *Holcus saccharatum*, under the name of *Imfii*, for the sweetness of its stem. The grains, different kinds of millet, and known as Kaffir-corn, are made into both bread and beer. The Indian-corn (known as mealies—*Milho*, Portuguese), is, however, the grain most largely cultivated, although originally a native of America. A kind of rice is cultivated by the Kaffirs about Delagoa Bay, but, so far as I know, not within the colony. The Tambuki-grass, a handsome grass, growing to a height of 6 or 8 feet, is always held to

be an indication of good soil, and is itself considered to yield the best material for thatching. The Buffalo-grass has a large broad, corrugated leaf, and is greedily eaten by horses and cattle.* The underground rhizomes of some of the grasses are so hard and sharp, that I have more than once known one penetrate the solid tuber of a *Lissochilus*, but without being able to determine whether this was purely accidental, or whether the grass was a kind of parasite, deriving nourishment from the Orchid.

I cannot allow myself space to say more than a few words on the Ferns and their allies, in addition to what I have already said. One, *Phymatodes vulgaris*, growing plentifully about D'Urban, is used as a perfume by the natives. The leaves are plucked, buried, and allowed to ferment, then worked up with clay into scent-balls or pomanders, 2 or 3 inches in diameter, and worn round the neck. These may be purchased of the Kaffirs, or bought in the stores.

The Spleenworts are particularly numerous. Of the more remarkable forms of Ferns, in addition to those named, *Vittaria lineata* is found 14 to 18 inches in length in the frond, and not more than an eighth of an inch in breadth; and Mr. McKen has recently found a *Schizæa* growing in a river near the Umtwalume. The beautiful *Anemia dregeana* is abundant in certain shady localities; while the *Mertensia umbraculifera* clothes the sunny slopes near the watercourses. I have only met with one species of *Equisetum*. The *Sycopodiums* are numerous. *L. quidioides* and another (*L. setaceum*) hang their long scaly dichotomous branches from the boughs of the Yellow-wood and other trees in the upland forests; while *L. cernuum* creeps by the watercourses on the coast, rearing at intervals its mimic trees like tiny *Araucarias;* and *L. Kraussianum* spreads its most delicate satiny branches over the moist soil by its side.

Mosses and Liverworts are comparatively few, and have not yet attracted much attention. Nor have Lichens yet received much notice, although there are several of great beauty. The Orchella weed (*Rocella tinctoria*) is found on the trees all along the coast, and of good quality, but, perhaps, not in quantity sufficient to repay the collection.

Of Sea-weeds I can say but little. The coast near the port is not favourable for them, being mostly sandy; and such as are thrown up are for the most part mere fragments, much injured in being brought from a distance.

Such is a most imperfect sketch of a few of the most notable features of the botany of Natal, by one who neither is a botanist nor has travelled much in the colony, two facts which which will be sufficiently apparent to the initiated. Imperfect as it is, it may serve to give some faint conception of the vegetable wealth of the colony. It cannot compare with many other lands in the size and splendour of its flowers, nor the magnificence and grandeur of its primeval forests, but it is nevertheless full of interest

* If the Kanòt is, as I am told, *Flagellaria Indica*, it belongs to *Commelinocea*, not to the grasses.

to the Botanist. Even yet it is a field comparatively unexplored, and I can assure any one who may be disposed to devote himself to its study of a rich harvest.

D'URBAN, NATAL, *June* 1, 1865.

FROM LECTURE BY THE REV. E. ARMITAGE, M.A.

THE general system of nature is divided by Botanists into 303 orders, and of these it is a surprising fact that only six, speaking generally, are poisonous; and so out of about 100,000 species discovered and described, only about 3,000 are suspicious as poisonous. The six poisonous orders are, 1st,—the *Amaryllids*. This is a highly suspicious tribe, of which nine-tenths are poisonous. To it belong the *Bella-donna*, of which the large Natal lily is a species, and also the *Hæmanthus*, commonly found in this district, and which is called by the Dutch the "poison-root." It is from an *Amaryllid*, or lily, that the natives of some parts of South Africa prepare the poison for their arrows. The characteristic feature of this tribe is their liliform flower, placed above the fruit, or the part containing the seeds. When this conformation is observed, the plant is highly suspicious; but not so when it has the fruit or seed vessel placed in the centre of the flower leaves, so as to be surrounded by them. The *Amaryllids*, however, may have many important medicinal uses, that might be turned to advantage.

The second poisonous order (common in Southern Africa, which is indeed its head-quarters) is the *Melanthads*, of which a specimen is found here in the so-called Yellow-bell, and which are all poisonous. The *Colchicums*, or autumnal Crocus, so common in England, belongs to this order.

Thirdly, the *Apocynads*, or Dog-banes, a very poisonous order; but one of the very few not poisonous species is found here in the Amatungulu, the fruit of which is well known to be wholesome; but it might not be so safe to eat any portion of the bark or roots. Of this tribe there are many here, including, perhaps, the only one not poisonous; there not being more than one or two, or very few in the whole world, of which any part is harmless. In Madagascar, the Tanghin, or Tangena, belongs to this order, one fruit of which, the size of an almond, has been known to destroy twenty persons. It is used there as a means of punishment. This order is distinguished by the milky juice exuding from the wounded bark; and may probably contain in this colony many other plants well worth attention, particularly a large tree of which the lecturer did not know the name. Their medical uses deserve attentive study, and much information on such a point might perhaps be obtained from the native population, who are acquainted with the curative properties of many simples.

The fourth poisonous order is the *Loganiads*. To this belongs the small Kaffir orange found about the Bay, a species of *Nux vomica*, or strychnine.

In this district there is a new species of *Strychnos*, different from the ordinary plant producing strychnine, and new to the lecturer, who was not previously aware of there being more than one plant of the kind in Africa. Whether there is any difference in the quality or effects he could not say.

Fifthly, the *Solanads*, such as the Deadly Nightshade, Henbane, Tobacco, have their representatives here, and among them (remarkably enough) another common edible fruit, the Cape-gooseberry; so that the two commonest wild fruits in Natal both belong to highly poisonous orders, the Amatungula being (as already stated) an *Apocynad*. Excepting the Tomata and the Cape-gooseberry, the lecturer was not aware of any other wholesome fruits belonging to this order throughout the world. Under it also is ranked the "Gift-boom" (Poison-tree) of the Dutch, or *Cestrum*.

Sixthly, the *Umbellifers*, or umbrella-shaped plants, including Hemlock, Parsley, Parsnip, and Fool's Parsley, in England. Of these there appear to be very few in Natal.

These six orders, or 3000 species, are, with a very few isolated exceptions, the only kinds possessing poisonous qualities so much concentrated as to be dangerous to the unwary; though doubtless there are others that might be injurious if taken in excessive quantities.

The Flora of Southern Africa, taken as including the extra-tropical portion of the continent, is distinguished by two peculiarities. The first of these is the comparative abundance of species. The area of Southern Africa is about equal to that of Europe; but while the number of species in the latter is not more than 4000 or 5000, the former contains at least 10,000, and probably 12,000 or 14,000; being thus richer than the richest part of the European continent. Natal, so far as the lecturer had observed, quite kept up the character of South Africa in this respect. On the very limited area of Table Mountain, near Cape Town, the only part of the colony that can be said to have been thoroughly explored, there are more kinds of wild plants than in the three kingdoms of England, Scotland, and Ireland taken together. The same might probably be found to be true of other parts of the colony. The second peculiarity is, that the South African Flora, in its distribution, resembles no other in the world. The plants that grow here have been found nowhere else. The Floras of England, France, Germany, Russia, &c., are to a great extent alike, many plants being common to them all; but of the 10,000 or more species of plants found in South Africa, not 100 are to be met with anywhere else. Scarcely a dozen of them are to be found in England, and those only "mundane" plants, or such as are found all over the world, as Pond-weed, Bulrush, and a very few others.

Further, the Natal Flora is distinguished from that of the Cape colony by its own peculiarities in distribution; though both may be considered as included within the general Flora of South Africa. Many of the Cape genera exist here, but in diminished numbers; Geraniums, for instance, of which the Cape is the head quarters, possessing perhaps 400 or 500 species; while here there are perhaps not more than a dozen or two. Another kind very abundantly distributed in the older colony is the *Protcads*, of which

the Silver-boom and Sugar-bush are examples; but which are here represented only by three or four sorts. Of Heaths, too, the number at the Cape is enormous, while here the lecturer had seen but one; perhaps there might be half a dozen altogether. Another class of Cape plants were the Restios, a kind of rushes, found only there and in the northern part of Australia; but of which the lecturer had not met with one here, though perhaps there might be two or three. Natal, on the other hand, differs from the Cape Colony in possessing many plants that the other does not boast of, and others which are there only sparsely distributed. Among these may be named the *Acanthads*, which are remarkable as being for the most part confined to the intertropical regions. A single scattered species is found in the South of Europe; but in Natal their numbers are remarkably great; a fact which seems to imply that we have here a tropical climate without the accompanying tropical heat. In the Cape Colony these form one-sixteenth of the whole, but here one-forty-fifth. "Practical men," however, might be informed that, although the flowers of some *Acanthads* are large and beautiful, they are all, so far as is known, for human purposes utterly worthless. The *Scrophulariads* form one-fiftieth of the Cape Flora, and one-twentieth that of Natal. The medical uses of the Digitalis or Fox-glove, one of this order, are well-known; and many that are found here are entirely new. The Spurges or Euphorbias form one-eightieth of the Cape plants, and one-twenty-fifth those of Natal. They are of all shapes and sizes, from the gigantic Euphorbia down at the Bay, to others the size of a little finger. The grasses are familiar to all, and easily recognised. Natal has a continuous carpet of grass, but in the Cape Colony a great deal is either brushwood, or bare and naked soil. The grasses form one-fiftieth of the Cape Flora, and one-twentieth of that of Natal. The Ferns are signs of a moist climate, and in proportion to the average moisture do they usually abound. Here their greater abundance seems to guarantee to us an average certain fall of rain, sufficient to secure us from the droughts prevalent at the Cape, where they form one-fiftieth of the whole; while, so far as can be at present known, they constitute one-thirty-third in Natal; and this is probably an underestimate. Another very important constituent of the Natal Flora is the *Cinchonads*, a tribe comprising Coffee, Quinine, and Ipecacuanha. These seem to be characteristic of this district, their members abounding remarkably here, being one-eighteenth, to one hundred and fortieth only at the Cape. The *Asclepiads* abound, and are very numerous here, so far as the lecturer's researches had hitherto gone. How it would be found further up the country he could not say. In the older colony this order is confined to one subdivision, the *Stapeliæ*, while here they are found as the *veræ* or or "true" *Asclepiads*.

Thus we have noticed three distinctive peculiarities between the Cape and the Natal Floras. We have tribes abundant at the Cape, in reduced numbers here; tribes in great numbers here as compared with the Cape; and in the case of the *Asclepiads*, one subdivision here and another at the Cape.

A remarkable circumstance in connexion with Natal, that had much impressed the lecturer, was, that many genera exist here which were to be found nowhere else out of the tropics; showing that we have a most extraordinary climate, with a sufficient annual amount of heat for sustaining the life of almost any tropical productions. Among the genera thus alluded to, may be named the three kinds of Mangrove, *Poivræa*, or the Hiccup-nup, growing at the Bay, the *Osbeckia*, *Barringtonia*, and others. The capabilities of the colony thus evinced are very great, extending to the cultivation of almost any tropical plant, together with those of the temperate regions.

A fifth advantage possessed by Natal over the neighbouring colony consists in its greater abundance of wood, which is there so scarce. Even including the more favoured region of the Eastern Province, there are not there to be found more than six kinds of trees that grow to any size. The lecturer could not pretend to say how many there are here; but certainly they are very much more numerous, and more than half of them are not at all known: perhaps it might be said not a tenth. In fact, this part of the subject forms a complete *terra incognita*.

There are two or three very important tribes that are found abundantly here, of whose characteristics it is desirable to possess a knowledge. First, the *Papilionaceæ*, such as the Bean, Pea, and other plants, having a butterfly-shaped flower. These are very numerous in the district, forming one-eleventh of the whole Flora. They are separated into three sub-tribes, each having its peculiar quality in a practical point of view. First, the *Papilioneæ*, having the butterfly flower, with the upper petals exterior in the bud, and generally bearing edible fruit, as the bean, pea, &c. Second, the *Cæsalpineæ*, having the lower petals exterior, and possessing medicinal qualities, and third, the *Mimoseæ*, having valvate petals, *i. e.*, meeting only by the edges, and remarkable for their copious production of gum. The produce of the first of these sub-tribes is almost universally edible; but some are dangerous if taken in any quantity, from their narcotic qualities, and these genera are abundant here. Among them may be named the scarlet bean of the *Abrus precatorius*, which has been supposed from some trials to be poisonous; while it has been, on the other hand, judged to be only indigestible in the quantities in which it has been taken. The scarlet beans also of the "Kaffir-boom," or *Erythrina*, are of a suspicious nature; but, as a general rule, any bean (especially if of any great size) may be safely tried, and will probably furnish a wholesome and useful esculent. The roots of these plants are often strongly marked by medicinal qualities. Those of the *Abrus* strongly resemble liquorice. The large fleshy roots of the kidney-bean in England are considered highly poisonous; and it might be well worth investigation whether the fleshy roots of the similar plants which abound among the grass in this neighbourhood have not narcotic powers, and, perhaps, therefore, new and undiscovered medical properties also. To the *Papilioneæ* belong also many of those plants which produce dye-stuffs. Some sorts of indigo grow wild in this colony. The lecturer

was not aware whether the experiment that had been tried on this plant by Mr. Wilson was on a native or an imported kind, but there are one or two, and probably many more, which from their fleshy and leafy nature might perhaps be made to yield the dye. He thought it probable, however, that the heat of this climate might not be sufficient properly to develop the dyeing properties of the herb; which seems rather to require the hotter temperature of peninsular India for their full perfection; and even there indigo-growing does not always prove a paying speculation. The leaves of many species in the second sub-tribe have medicinal properties. Those of the Cassia, bearing bright yellow blossoms, so common as an ornamental shrub in this town (not a native, however, of the district), are as good and pure senna as can be purchased at the chemists' shops. The *Schotia*, or Boer-bean, bearing an edible fruit, is not common here. Another plant, the *Chamæcrista*, closely allied to Cassia, may, on examination, prove to have similar but distinct medical properties.

The *Mimoseæ* are valuable for their gum and tannin. The collection of the former is carried on to some extent in the old colony; but does not appear to be a very lucrative occupation. The tanning principles of the native Doorn-boom, or thorn-tree, might probably be turned to some account, as it is already used by the natives. The catechu, so much used in medicine, and which is one of the most powerful astringents known, is made from the heart-wood of a kind of Mimosa growing in South America, and it might be worth while to institute experiments for the production of the drug here. The pods of another species are used in South America as an alkali in washing. Few of this division are in any degree poisonous.

The *Euphorbiaceæ*, or Spurges, are very numerous here, probably not falling far short of 200 species. A great proportion of them are distinguished by a milky juice, which is often highly poisonous, but at the same time so intensely acrid, that there is no danger of any one taking too much by mistake,—the thing speaks for itself. Poisons, however, are always worth examination as medicines. Some parts of this tribe, also, are capable of being eaten, as is the case with the Cassia cultivated at the Bay, but which is not indigenous here. From another species a useful kind of starch might be made. The Candelabra Spurge of the old colony has supported the life of persons who have been lost in the bush; its central pith, divested of the bark and roasted, being no despicable nourishment for a starving man. This happened to the German botanist, Krauss, while wandering in the Karroo. Some seeds afford oil. The Castor-oil plant, so commonly found wild here, will not probably afford it in sufficient quantity to make its extraction a paying speculation; but perhaps other allied plants might afford a larger quantity, or an oil having new and peculiar energetic medical effects. Some of this kind have their seeds large, as the *Aleurites* found among the grass here, which produces a capsule containing three seeds, and larger than a hazel nut. An elastic gum is produced from some, such as the original India-rubber from *Siphonia elastica*. It may be mentioned here that the Amatungulu, already spoken of as belonging to the *Apocynads*, gives a very

strong milky juice on the bark being wounded by a notch. Another tree, also allied to the Amatungulu, but without thorns, has produced from one of its fruit (not larger than a walnut) a lump of India-rubber as large as a pistol bullet. Its name was unknown to the lecturer, nor could he say whether it is not hitherto quite undescribed. Other trees or plants affording similar juices might probably be met with; and it would be important to ascertain at what season of the year the juice would flow most copiously, and what uses might be made of it.

The *Asclepiads* are peculiarly a South African tribe; about one-fourth of all that are known in the world being found here, and of these Natal seems quite to possess its share. Mr. Armitage had himself noticed forty kinds, and perhaps there might be 600 collected in all. They have a very remarkable look; the flowers having a lurid, staring, peculiar, unmistakable aspect, not brilliant in hue, but being of a livid white or a lurid red. None of them are poisonous, at least to any virulent degree, and many exude a milky juice, also resembling that constituting India-rubber. This is a direction also in which discoveries might be made. The sub-tribe *Stapeleæ* is remarkable for its flowers, which, like the toad or serpent among animals, fix themselves for ever in the memory by their repulsive appearance and their abominable scent. They seem to abound in the upper regions of the colony; and Mr. Plant found a flower of this kind in the Zulu country as large as the top of a hat, and calculated to inspire as much horror by its appearance as the sight of a large serpent might be supposed to occasion. No two of them agree in structure; and (unlike the *Papilionaceæ*) there is the greatest possible variety to be found in the form of their flowers. Every one is different from the rest, and all are remarkable.

The *Cinchonads* (including Coffee, Quinine, &c.) number altogether about 2,500 species; and of these fully 100 are to be found here. Mr. Armitage had not himself seen so many; but judged from those he had met with that number existed here. Coffee it is well known is a berry; and any large berry belonging to the same genus may be confidently tried as a new kind of coffee. The order may be easily distinguished by having their leaves distributed not singly but in pairs, the one opposite to the other, having a connecting link in the form of a stipule or ring rising to a point in the centre between the pairs. In Natal the *Cinchonads* abound. Ipecacuanha is produced from the root of another plant of this order; a circumstance which shows how desirable it is to examine the properties of all parts of unknown plants. There are dye-plants also in this order; as, for instance, several *Oldenlandias*, a genus of which two or three species exist here. Madder, the well-known red dye, is a nearly allied genus.

LIST OF NATAL TREES.

For the following List of Trees and Plants of Natal, with the Native and Scientific Names, the Author is indebted to the Rev. J. C. Brown, LL.D., Colonial Botanist and Professor of Botany in the South African College:—

Umtshongi	*Antidesma Natalensis.*
Umtagana	*Apodytes dimidiata.*
Umpahla	*Brachylæna discolor.*
Umpahla quala	„ *McKenii.*
Isifiti	*Bracteolaria racemosa.*
Umhla	*Brehmia spinosa.*
Umbonda	*Combretum Kraussianum.*
Isipane	*Calpurnia laziogyne.*
Umvumoo	*Celtis Burmanni.*
Umnofunofu	*Cordia Caffra.*
Umquaquana	*Clerodendron glabrum.*
Umkovoti	*Chatachme Meyeri.*
Umkiwané	*Cyclostemon Natalense.*
Ibunda	*Dombeya Natalensis.*
Umsungulo	*Dalbergia abovata.*
Itungamsi	*Eucleu undulata?*
Umhlonhlo	*Euphorbia.*
Umsinsi	*Erythrina Caffra.*
Umnyaniati	*Ekebergia Capensis.*
Umtombi	*Ficus.*
Isigobo	*Gardinia globosa.*
Iklolo	*Grewia occidentalis.*
Ugume	*Hippobromus alatus.*
Umguenya	*Harpephyllum Caffrum.*
Ilala	*Hyphæne.*
Umvongoti	*Kigelia pinata.*
Inkweza	*Kraussia floribunda.*
Umzimbiti	*Milletia Caffra.*
Umsanga	*Myaris inæqualis.*
Umbomonane	*Ochna arborea.*
Umnaminami	*Onchoba Kraussiana.*
Itungwane	„ *spinosa.*
Umontwamina	*Plectronia ventosa.*
Ussembetu	„ *spinosa.*
Isundu	*Phœnix reclinata.*
Utandawe	*Poivræa bracteosa.*

Umbu	*Protium.*
Inhluti	*Rhus lanceolata.*
Umgulugulu	*Strychnos McKenii.*
Umkangala	„ *Atherstoni.*
Umxamo	*Scotia.*
Umvangazi	*Sponia Orientalis.*
Isibañgomloti	*Sclerveroton integrefolius.*
Umdoni	*Sizygyium cordatum.*
Umgano	*Sclerorya Caffra.*
Inquala	*Schmidelia.*
Unuquambiba	*Toddalia (vipris).*
Indhlebendhlova	*Trimeria alnifolia.*
Umkuhla	*Trichelia Dregeana.*
Isibañgabulonga	*Vangueria lasiantha.*
Mavea	„ *infausta.*
Umnumgwaze	*Xanthoxylon Capense.*
Umpafa	*Zizyphus macronata.*
Umhlandhloti	*Zygia fastigiata.*

GEOLOGICAL NOTES ON THE LINE OF ROUTE FROM THE WEST COAST TO THE COPPER MINES IN THE INTERIOR OF DAMARA LAND.

Coast	White sandhills.
Walvisch Bay	Flat alluvial soil from the Kuisip.
The Plain	Decomposed hornblendic and micaceous granite, and amorphous granite boulders.
Banks of the Schwagoup ..	Amorphous granite; feldspathic schists, with quartz dykes, and shale.
Hykamgoub	Hornblendic granite and vitreous quartz; tourmaline and garnets of large size.
Oosop Gorge and Plain ..	Granite, and parallel ranges of decomposed slate and feldspar, and basaltic dykes; tourmaline garnets of large size.
The Red Mountain ..	Ferruginous granite and feldspathic schist.
Tincas	Clay slate; quartz dykes; ferruginous granite and tufa.
Onanie's Plain and Fountain.	Amorphous granite; tufa; quartz.
Witte Water Range and Plain.	Amorphous granite and quartz dykes.
Chobis	Amorphous granite; quartz; and basaltic dykes.
Otjimbengue	Amorphous granite; quartz; and basaltic dykes.
Dabbie Choap	Limestone and quartz; granite (hornblendic).
Mouth of Kaan River, and thence.	Clay slate; gneiss and quartz dykes, and limestone.
Rim Hoogte	Clay slate; gneiss; basaltic dykes, and highly vitrified spar.
The Dam	Compact hornblendic granite, and ferruginous quartz.
Deep River	Hornblendic granite; quartz; gneiss and clay slate, with puddingstone.
The Mine	Bounded north by hard greenstone and micaceous granite, and traversed by a lode of decomposed ferruginous granite, beneath that a strong mundic lode; bounded on the south by micaceous granite hills and gneiss bands, with puddingstone intermixed, and clay slate.

Raised from the Mine .. Red oxide copper, solid; ruby do. 88·58: rich sulphurets; bell metal; fe ous sulphurets; black sulphurets; black oxides; silicates; manganese and copper; hard blue granite, with mundic; highly decomposed feldspathic schist; rich carbonates; azurite; malachite, fibrous and compact.

HEIGHTS, BY BOILING WATER.

Lechulatèbe's Town	2260 feet.
Ghansi	3352 „
Fort Funk (Gnuegga)	3310 „
Riet Fontein .. :	3450 „
Elephant's Fontein	3752 „
Twass	3951 „
Quaiep River	4463 „
Awass	4643 „
Eikhams	3860 „
Barmen	3575 „

DISTANCES BY THE WAGON ROAD FROM WALVISCH BAY TO LAKE NGAMI, AS MEASURED BY TROCHAMETER.

	Miles.	Furlongs.	Yards.
From Walvisch Bay to Oesip Gorge ..	36	0	166
Oesip to Tingas	31	3	115
Tingas to the Pass	10	1	157
Pass to Platklip	13	0	120
Platklip to Witwater	12	1	55
Witwater to Tsoubis	11	6	58
Tsoubis to Otjimbengue	21	7	41
Otjimbengue to Otjemonjibba ..	33	7	211
Otjemonjibba to Otjikango	9	0	90
Otjikango to Barmen	5	2	149
Barmen to Otjithebba	15	0	0
Otjithebba to Gowsdangows ..	16	7	107
Gowsdangows to Eikhams	12	0	120
Eikhams to Jan Jonker's (Quaiep) ..	20	7	133
Quaiep to Hottentot village at the Turnaway	13	0	0
Village to Nosop River	9	4	144

	Miles.	Furlongs.	Yards.
From Nosop to Jonker's brother-in-law ..	36	0	85
Jonker's brother-in-law to Witvley	24	6	9
Witvley to Kobi Kobis	5	0	94
Kobi Kobis to Elephant's Fontein ..	25	4	40
Elephant's Fontein (by South Road) to Twass	35	0	0
Ditto (by North Road) to Ditto ..	48	2	132
Twass to Damara Village	33	0	0
Damara Village (near the Pass) to Sand Fontein	16	6	32
Sand Fontein to Elephant's Kloof ..	9	4	144
Elephant's Kloof to Riet Fontein ..	57	1	117
Riet Fontein (or Tounobis) to Gnathais	30	6	161
Gnathais to Gnuègga	9	2	59
Gnuègga (or Fort Funk) to Ghanzi	26	6	73
Ghanzi to Thounce	25	3	135
Thounce to Koobie	23	0	99
Koobie to Lake (West end)	45	5	54
West end to Chief's town at East end	38	7	90

FOR THE FOLLOWING LIST OF HEIGHTS, TAKEN FROM COLESBERG, IN THE CAPE COLONY, TO BARMEN, IN DAMARA LAND, THE AUTHOR IS INDEBTED TO DR. HOLDEN, THE SOUTH AFRICAN TRAVELLER.

	Feet.		Feet.
Colesberg	3871	Mogonon	2981
Coleskop	4719	Boatlanami	2897
Hamhan	4326	Shubi	2793
Kuruman Fountain ..	3529	Lopèpè	2882
Kuruman (or Kruman) ..	3477	Mashuè	2919
Motito	3409	Kuarubel	2698
Tlakanuana	3137	Loshon (outspan) ..	2929
Lohaga (the Cave) ..	2991½	Ditto Spring, near Mission House	3283
Molopo River	2949	Manakalongoè pass (summit)	3617
Cuani (pronounced Chuanin)	3018	Letlochoè	3368
Loharoñ	3174	Tlabala	3363
Lequaqua	3430	Nkawani	3320
Kanya	3669	Bachukuru	3184
Top of the descent into Kolobeñ plain	3634	Malachui	3085
Foot of the Plain	3278	Lotlokani	2721
Sechelli's Town	2914	Nchokotsa	2592

	Feet.		Feet.
Chapo	2643	Gnathais	3326
Lechulatèbe's Town, Lake Ngami	2664	Reed Fountain	3445
The Lake Ngami	2664	Elephant's Kloof	3737
Ghanzi	3356	Kobi Kobis	4021
Tkanatkwa	3313	Elephant's Ftn. (Gobabies)	3947
		Barmen (Damara Land) ..	3592

HINTS TO TRAVELLERS.

ALTHOUGH I have never had an opportunity of trying some bullets which I once made for the purpose, I would recommend all hunters to try my experiment, which is simply to bore a small hole through a soft conical bullet from side to side, and fill it up with poison from the Bushmen arrows. The bullet, meeting with opposition, will eject the poison, which, mixing with the blood, I have no doubt will soon prove fatal. The Bushmen say the thickness of the elephant's hide is the only obstacle to their killing them with their arrows. I recommend Bushman poison because the flesh may, nevertheless, be eaten.

In stalking game one should be particularly careful not to cock his gun with a noise. He may do it unheard by gently pressing the trigger while he is cocking.

The following solutions, with which I have recently been favoured by a friend, will be useful to all travellers making collections in this country:—

For jelly-fish, insects, beetles, entrails, &c.:—

Salt	4 oz.
Alum	2 oz.
Corrosive Sublimate	2 grs.
Rain water	1 quart.

For star-fish, shell-fish, bats, mice, snakes, fish, lizards, &c.:

Salt	½ lb.
Arsenic	1 scruple.
Corrosive Sublimate	2 grs.
Boiling rain water	1 quart.

Every traveller should, if possible, have a few sheets of gutta-percha sheeting, in case of lying out in the wet, or sleeping on wet ground. Gutta-percha combs are also preferable to horn or ivory, which break with

the weather. His watches should be well secured against the very minute particles of dust which creep in and destroy any watch in this country; they should, moreover, always be carried in a chamois leather bag. A water-proof suit for walking in the dew or rain; good heavy and light boots; coloured flannel shirts in preference to any other; drab or grey clothing; a warm coat and cap for night shooting; a cool hat for the day. Type metal in preference to any other hardening material; woollen socks; a spare stock to your best gun; gutta-percha bags for carrying water; enamelled iron plates, drinking cups, &c., &c. Tar will be found the best artificial horizon, a tin plate can always be used for the purpose, and when done with you may throw it into the tar-bucket of the wagon. Always keep a good supply of bullets ready made; and never trust to the fountain ahead, but always keep your water-casks *full*. Tallow will keep off moth better than pepper. To preserve skins wash them with a solution of one spoonful of creosote to a pint of water.

NOTES ON THE DAMARA LANGUAGE.

BY

THE REV. MESSRS. RATH AND KOLBE.

1865.

NOTES ON THE DAMARA LANGUAGE.

THE Damara language is spoken by the tribes called *Ovahereró* and *Ovambandierú*. The name *Damara*, however, is unknown to the tribes to whom it is applied; and it is only lately that, by frequent intercourse with Europeans, they got acquainted with it, but pronounce it *ovadamava*. The word is derived from the Namaqua language, and its proper form is *Damân*, for *Damara*, as the word was pronounced by the first European travellers who were acquainted with the language, it means *two Damara women, ra* being the sign for the feminine dual. The Namaquas are in the habit of calling all neighbouring black tribes *Damân*, but distinguish *Bread-damân*, northerly agricultural tribes, whom they also call *Navin*, and *Kumaka-Daman*, Cattle-Damara, these being the two tribes whose language is the subject of these lines. But although there is not much sense in the appellation *Damara*, yet, for convenience' sake, it may be retained, as the said tribes have no collective name themselves, and the distinction between Ovahereró and Ovambandierú only tends to puzzle the reader. The Damara call their language *eraka retu*, our tongue; and also *otyiherero*, though the latter word is used more in the sense of *manner* or *fashion*. *Ma hungire eraka retu*, means "he speaks our tongue;" but *ma hungire otyiherero*, "he speaks in Damara fashion; also, *ondyuo ya tungua otyiherero*, "the house is built in Ovahereró fashion," not so as Europeans are in the habit of building.

The territory over which this branch of the South African family of languages extends, is from 22° 30′ to about 19° S. lat., and from 15° E. from Greenwich to one or two degrees west from Lake Ngami. Formerly the Damara had advanced to the south a little beyond the present Namaqua station, Rehoboth. On the road to Walvisch Bay, along the river Swakop, Zanbis is the last out-span place which, besides the Namaqua, has also a Damara name, *Otyshana tyozonganda*. For places further south the Damara have no names. The Damara language forms thus the south-west limit of that extensive family of languages to which, with the exception of the Hill-Damara and Namaqua, probably all South African tribes south from the equator belong.

A generally adopted name for this family of languages seems still to be wanting. In Appleyard's elaborate Kaffir grammar, they are called the alliteral class; and in this, as also in Boyce's Kaffir grammar, it is maintained that a certain euphonic concord is the ruling principle of the language. At first sight one might, indeed, be led to think so, as will

appear from the following sentence: *Ovanatye vantye ovanene vevari vu ta*; children—mine—great—two—they—dead; or, my two elder children have died. But, although it must be admitted that euphony forms an important feature in the Damara language, yet it is no more its ruling principle than, for instance, the alliteration in the German sentence, *der Lehrer welcher gestern hier war, ist gestorben; er war ein guter Mann.* The alliteration in this sentence is of exactly the same nature as in Damara. Döhne, in his valuable dictionary of the Zulu dialect, calls the "alliteral class" *pronominal languages*, and this seems to be the proper term.

The most striking feature of these languages are the *prefixes of the noun*. Every noun has a prefix, and though this is used to denote the singular and plural, yet that seems almost to be of less consequence than the *meaning of the prefix itself*, for there is at least one prefix in Damara which is used both for the singular and plural. A closer study of the subject will also show that the prefixes of nouns and the personal pronouns are not merely more or less similar to each other, but *identical*.

The following table will illustrate this:

Prefix.	Pers. Pronoun.	
1. omu	u, nu ..	*omundu*, man.
2. ova	ve	*ovandu*, men.
3. omu	u	*omuti*, tree.
4. omi	vi	*omiti*, trees.
5. e	ri	*eke*, hand.
6. oma	e	*omake*, hands.
7. otyi	tyi	*otyiku*, arrow.
8. ovi	vi	*oviku*, arrows.
9. on	i	*ontu*, sheep.
10. ozon	ze	*ozontu*, sheep.
11. oru	ru	*orui*, fountain.
12. otu	tu	*otui*, fountains.
13. oka	ke	*okakambe*, horse.
14. ou	u	*oukambe*, horses.
15. oku	ku	*okurama*, leg.
16. oma	e	*omarama*, legs.

The last prefix, *oma*, is also used for the plural of *ou*; viz., *outuku*, night; *omautuku*, nights. This is not the place to prove from other dialects the identity even of those prefixes and pronouns which, at first sight, seem to bear no affinity to each other, as, for instance, *e* and *ri*, which seem to have nothing in common, and yet they are identical; as it can be shown from kindred dialects that the full form of *e* must have been originally *eri*.

Now, if the prefixes of the noun and the personal pronouns are identical, it follows that the former must have an *inner signification*, a *real meaning*, according to which the classification of nouns was and is still effected. This interesting fact is quite lost sight of in Appleyard's Kaffir grammar, which,

though comprehensive in other respects, says nothing at all about the signification of the prefixes. This is an error into which all those will fall who adopt the so-called alliteral or euphonic concord as a ruling principle. Some approach to a designed classification of nouns is also found in the genders of European languages. In German, for instance, specimens may be pointed out from which it would appear that of two similar objects the greater or most prominent is masculine, and the other feminine, viz., *der Thurm* (tower), *die Kirche* (church), *der Saal* (hall), *die Stube* (room), *der Baum* (tree), *die Wurzel* (root), *der Weg* (road), *die Spur* (track), *der Muth* (courage), *die Demuth* (humility). Now it is, properly speaking, the pronouns in which the distinction between masculine, feminine, and neuter, finds its expression.

It would lead us too far to expatiate here on the probable signification of the several prefixes. Suffice it to say, that the so-called savages, in their language, give to *man* a separate place, a separate prefix and pronoun, which are exclusively used for him. This classification of nouns makes it extremely easy to learn and use existing words, as the gender of each noun is, so to speak, written on its forehead; but, on the other hand, it is difficult in forming new words to find a proper place for them.

Besides the copiousness of forms for the classification of the noun, the language possesses a considerable number of forms for the verb, generally called conjugations. There are at least ten of them. One, with a reflective signification, is formed by a prefix, all the others by suffixes, viz. *veta*, push, throw; *be ri-vete*, I pushed myself; *kumba*, pray, ask; *ke tu kumbire ku iho*, go, ask *for* us from your father; *ronda*, climb; *dyi rondisa*, cause me to climb, help me up; *pata*, shut; *paturura*, open. As regards moods and tenses the language is very defective.

From what has been said, it may be seen to some extent that the Damara language, in common with its kindred dialects, has its peculiar advantages; it possesses a precision and fulness of expression which one would scarcely expect to find among such a rude nation, and which may be regarded as a certain proof that once they were in a higher stage of culture. On the other hand, however, it is not to be denied that the very copiousness of forms, and the frequent repetition of pronouns, makes the mode of expression in the language, at least to our taste, somewhat heavy and awkward.

For linguists, it may not be uninteresting to observe that the Damara language constructs for the four pronouns, his, her, it, their, no less than fifteen times fifteen words; further, that in it no proper negation exists, and that as yet no irregularity can be proved with full certainty.

The following tables, with words and sentences in Damara, Ovambo, and Vanano, may perhaps be acceptable. The pronunciation of letters is as in German, with the exception of *h*, which is a strong spirant, but may also be pronounced like the English *sh*, and *z* like the English *th*; *v* and *y* are pronounced as in English.

	Damara.	Ovambo.	Vanano.
Elephant	ondyou.	ondyamba.	ondyamba.
Goat	onkombo.	ohikombo, *plur.* ovikombo.	otyingongo, *plur.* ovingongo.
Iron	otyitenda.	osela.	otyivela, *plur.* ovivela.
Fire	omuriro.	umlilo.	ondalo.
Tongue	eraka.	elaka.	elaka, *plur.* omolaka.
Neck	osengo.	ohingo.	ohingo, *plur.* olohingo.
Knee	ongoro.	ongolo.	ongolo, *plur.* olongolo.
Village	onganda.	onganda.	ombala.
Hair	ozongise.	omasusu.	otyisame.
Spoon	orutuo.	oruhindo.	onguto, *plur.* ozonguto.
Sky	eyuru.	eulu.	eiru.
Nose	eyuru.	eyulu.	enyum.
Child	omuatye.	okanono.	omola.
House	ondyno.	ondyno.	oondyo, *plur.* oloondyo.
House-place ..	orumbo.	eumbo.	eimbo.
Arm	okuoko.	okuoko, *plur.* omanko.	okuako, *plur.* ovanko.
Foot	ombaze.	ombaze, *plur.* ozombaze.	omai, *plur.* olomai.
Hand	eke.	eka, *plur.* omaka.	eka, *plur.* ovaka.
Face	omurungu.	omulungu.	opolo.
Eye	eho.	eho.	eho, *plur.* ovaho.
Arm-rings ..	ozonkoho.	oviyera.	..
Beer	..	omaruf.	..
Pick	..	etemo, *plur.* omatemo.	..
Tobacco-pipe, pot	onyungu.	ombika.	..
Place	otyirongo.	ohilongo.	..
Hatchet	ekuva.	ekuya.	..
Hunger	ondyara.	ondyala.	..
Knob-kierie ..	ongunya.	onguruzimbo.	..
Snuff	..	osenya.	..
Snuff-box ..	..	ohipakorua hosenya.	..
Stick	okati.	ohiti.	..
Shoulder	otyituve.	epepe.	..
Cheek	otyitama.	ombese.	..
Heel	otyipante.	ohisi.	..
Bow	outa.	outa.	..
Arrow	otyiku.	ikuti.	..

	Damara.	Ovambo.	Vanano.
Morrow	omuhuka.	omuhuka.	..
Sandal	onkaku.	onkaku.	..
Words	omambo.	omambo.	..
Day-time	omutenya.	omunina.	..
Woman	omukazendu.	omukaendu, *plur.* ovakaendu.	..
Meal	oruhese.	usira.	..
Thirst	onyota.	onota.	..
Tail	omutyira.	umbira.	..
Rope	ongoze.	ontimbo.	..
Spear	enga.	eonga.	..
Gun	otyimbari.	otyifufuta.	..
Dagger	..	omuele.	..
Name	ena.	ezina.	..
Sweet milk ..	omaisi.	omachini.	..
Thick milk ..	omaire.	omale.	..
Old man	omukururume.	ombambani.	..
Ear	okutui, *plur.* omakutui.	okotyui, *plur.* omakotyui.	..
Young man ..	omuzandu.	umati.	..
Leg	okurama.	okulama.	..
Shin	epindi.	omupindi.	..
Calf (of the leg)	ongehue.	omuzo.	..
Sun	eyuva.	etango.	..
Day	eyuva.	euya.	..
Come; I come ..	indyo; me ya.	ingam; di ya.	..
The third month	omueze omutatu. omueze u tya tatu.	omueze umtitatu.	..
My pot	onyungu yandye.	ombika andye.	..
Yes	în.	eno.	..
No	inde.	aoe.	..
Not the woman	omukazendu ka ye.	omukaendu aoe.	..
One	mue.	omuzi.	..
Two	imbari.	inyara.	..
Three	intatu.	intatu.	..
Four	yane.	none.	..
Five	tano.	tano.	..
Six	hamboumue.	ihemane.	..
Seven	hambombari.	heari.	..
Eight	hamboutatu.	hetatu.	..
Nine	omuviu.	nomukoi.	..
Ten	omurongo.	omulongo.	..
Many words ..	omambo omengi.	omambo oengi.	..
He fears	e ua tira.	e ua tila.	..

	Damara.	Ovambo.	Vanano.
He saw	ua tarere.	ua talele.	..
There he sleeps	opu oa rara.	opu ha lala.	..
He is risen ..	ua sekama.	ua tikama.	..
Wait	kurama.	muena.	..
Man	omuadu, *plur.* ovandu.	..	omunu, *plur.* omanu.
Ox	onkombe, *plur.* ozonkombe.	..	onkombe, *plur.* ozonkombe.
Tree	omuti, *plur.* omiti.	..	outi, *plur.* oviti.
Knife	orutuo, *plur.* otutuo.	..	omoko, *plur.* olomoko.
Head	otyiuru, *plur.* oviuru.	..	outue, *plur.* ovitue.
Mouth	otyinyo, *plur.* ovinyo.	..	omela, *plur.* olomela.
Tooth	eyo, *plur.* omayo.	..	eyo, *plur.* ovayo.
Finger	omunue, *plur.* ominue.	..	omunue, *plur.* ovinue.
Sheep	ontu, *plur.* ozontu.	..	omeme, *plur.* olomeme.
Chief	omuhona, *plur.* ovahona.	..	ohoma, *plur.* olohoma.
Water	omeva.	..	ovava.
Door	omuvero.	..	ovelo.
Forehead	otyipara.	..	otyipala.
Back	etambo.	..	ouvongo.
Dog	ompua.	..	ompua.
To climb	oku-ronda.	..	okulonda.
To fight	oku-rua.	..	okulua.
To throw	oku-yumba.	..	okuyimba.
To speak	oku-hungira.	..	okupopia.
One man	omundu umue.	..	omuna umue.
Two men	ovandu vevari.	..	omanu vavari.
Two oxen	ozonkombe imbari.	..	olonkombe vivari.
One eye	eho rimui.	..	eho limui.
Two eyes	omeho yevari.	..	ovaho ovari.
Wash yourself ..	rikoha.	..	lisukula.
I washed myself	be rikoho.	..	nda lisukula.
I throw	me yumbu.	..	ndi yimba.
Kindle the fire ..	yakis omuriro.	..	sahala ondalo.
Put the fire out	temisa omuriro.	..	ima ondalo.
Cool the water ..	porisa omeva.	..	polis ovava.
My arm	okuoko kuandye.	..	okuako kuange.
My arms	omaoko oandye.	..	ovanko ange.
Your trees ..	omiti vioye.	..	oviti vioye.

SENTENCES IN DAMARA AND VANANO.

We love each other.—D. *Tu suverasana.* V. *Tu li'sole.*
They beat each other.—D. *Va tonasana.* V. *Va liveta.*
Shut the door.—D. *Pata omuvero.* V. *Yir ovelo.*
Open the door.—D. *Paturura omuvero.* V. *Yululaka ovelo.*
Sit down, I work for you.—D. *Kara pelis, me ungurire ove.* V. *Dumala, ami hu dalavayela ove.*
Work, do not sit down.—D. *Ungura a kara pelis.* V. *Dalavaya, ku dumale.*
The man works.—D. *Omundu ma ungura.* V. *Omunu u dalavaya.*
The men work.—D. *Ovandu va ungura.* V. *Omanu va dalavaya.*

SENTENCES IN DAMARA.

Ka omuti.—Chop down the tree.
Ka et' ozongune.—Go, fetch firewood.
Me ka teka omeva.—I go to draw water.
Ma tu ka via.—We are going to eat.
Ue kuta?—Are you satisfied.
Mo i pi?—You-go-where; where are you going?
Me ka rara.—I am going to sleep.
Okakambe ka u.—Horse-it-fell; the horse fell down.
Otyityuma tya teka.—Vessel-it-broke; the vessel is broken.
A mu tya ka a nyauda tyi ma verekena.—Not-you-say-not-it-glad-if-it carried on the back; don't say it (the child) is not glad, when carried on the back; *i.e.*, O! how happy is the child when carried on the back!
Ondyno ai tu peoe.—The house ends by the rock—*i.e.*, it is as strong as a rock.
Ena roye ove ani?—Name-your-you-who?—*i.e.*, what is your name?
Ka mu nena.—Not-you-with-name; you have no name; you are insignificant people.
Omueze ua ka rara.—Moon-it-go-sleep; the moon sets.
Omundu u nepunga.—Man-he-with-lung; the man has a lung—*i.e.* the man is dying.
Bi notyiuru.—I-with-head; I have a head—*i.e.* headache.
E ua sana peke.—He-he-like-alone—*i.e.* nobody is like him.
Oundyendye u nomayuru omanene.—The beads have big noses—*i.e.* they are unequal.
Ka tu novandu korutyira.—We have no men at our tail—*i.e.* nobody comes after us; we are the last.

Ue ndyi pe otyiruaro.—You-me-gave-wound; you have wounded me.
Ovandu va ka-rir otyisire.—The men have become a shadow—*i.e.* they are so far already that they are almost invisible.
Outiti, po, ounene opuno?—Smallness-or-greatness-enough—*i.e.* Is it full-grown, or still growing?
Vanga du a vanga.—Will-which-you-will—*i.e.* take which you like
Ua heua kokure.—He-is-meant-far—*i.e.* he is far from knowing it well.

THE END.

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